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ABSTRACT

This document reports on a project undertaken to determine the feasibility of a periodic national survey of a sample of U.S. school districts to obtain information on the performance of the existing dissemination and utilization network for educational innovations. All the cases in this volume were originally identified from a national survey of innovation reported in a representative sample of 353 U.S. school districts and illustrative of innovations attempted in the late 1960's or early 1970's. They are intentionally diverse in content, district size, and geographic locale. The studies presented include the individualized instruction program, the program improvement proposals (PIP), the talented student program, implementation of the middle school concept, and flexible modular scheduling. A selected list of references is included. (Author/DN)

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EDUCATIONAL INNOVATION IN THE UNITED STATES

Volume II:
Five Case Studies of Educational Innovation at the School District Level

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CHAPTER ONE

ANALYTICAL OVERVIEW*

INTRODUCTION

This volume contains five case studies of innovation in U.S. school districts. All these cases were originally identified from a national survey of innovation reported in a representative sample of 353 U.S. school districts. All cases reported represent innovations attempted in the late 1960's and early 1970's. They are intentionally diverse in content, in district size, and in geographic locale, and although not "representative" in any statistical sense, they do constitute an indepth look at many of the phenomena revealed in the survey. Particular emphasis is on the process of innovation, not the content. Thus, the cases are intended more as a guide of how innovation takes place and how procedures for innovating might be improved than as a handbook or recommended list of innovations, per se.

By design, each case attempts to follow a common format and all data were collected following a common procedure. These measures were undertaken to allow some degree of comparability across cases in spite of the wide diversity in the systems and innovations under study. On the other hand, no two cases are written by the same person. Thus, there will be unavoidable differences in style and length. Some readers may also take exception to the inferences drawn on relatively shallow evidence. However, we felt that case study writing was a certain task which must allow some individuality and license to authors to tell it as they see it and to report both facts and impressions.

In this overview chapter, we will begin by laying out the content and the rationale for the case studies and by describing briefly the methodology. Then we will try to draw some conclusions from a comparison of the five cases taken together. This will not be a statistical analysis, but may indicate to the reader the potential of the case study approach for (a) providing a deepened perspective as a back-up to statistical surveys (such as is represented in Volume I of this report), and for (b) developing a unique methodology for studying innovation process.

A. WHY THESE CASE STUDIES WERE UNDERTAKEN

Not enough is yet understood of the specific processes by which schools and school systems take in, implement, and maintain innovations over time. While it is true that these issues have been discussed widely in the literature and have been subjected to empirical investigation in detailed case studies (e.g., Gross et al., 1971) and in national surveys (Lindeman, J. et al., 1969; Rittenhouse, C., 1970; Havelock, et al., 1973 Volume I of this report), there remains a need for studies which provide both depth and comparability, in which complex innovation efforts can be traced in detail within a school system over time and yet be subjected to quantitative summarization and analysis across cases, across innovations, and across districts.

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*This chapter drafted by R.G. Havelock.

This study of diffusion and adoption of innovations has a long tradition in educational research beginning with the studies of Paul R. Mort and his colleagues at Columbia Teachers College. Mort (1964) cites 200 studies beginning in the late 1930's and continuing through the late 1950's, covering a very large range of innovations and focusing on various aspects of school system structure and finance which affect what he called "adaptability." With Mort's retirement that tradition of research at Columbia came to an end although some major studies of educational innovation diffusion have been done since (e.g., Carlson, 1965; Lin et al., 1966). Furthermore, the work of Everett Rogers (1962, 1971), in summarizing over 1000 empirical studies of innovation diffusion, has demonstrated the compatibility of findings from education with findings from such diverse fields as agriculture, medicine, and community and national development.

Beginning in 1966, with the support of the Division of Research Training and Dissemination of the United States Office of Education,* the Center for Research on Utilization of Scientific Knowledge (CRUSK) at the University of Michigan began to study innovation processes from the special focus of "knowledge utilization." As a first project, a review was conducted of all relevant sources in the literature on "dissemination," "planned change," "communication," "technology and information transfer," and "innovation." Of over 4000 potential sources identified (Havelock, 1972) about 1000 key items were summarized and integrated in the final report to the U.S. Office of Education (Havelock, 1969).

In brief, the report suggested that there were three major orientations toward innovation in education which were identified as: 1) Research, Development and Diffusion (the national "system" planners of the 1960's); 2) Social Interaction (the diffusion researchers); and 3) Problem-Solving (the human relations and client-centered consultation school). We argued in concluding the report that although the above three models of D&U** are espoused by different authors and represent different schools of thought, they can be seen as elucidating different but equally important aspects of a total process. In attempting to build a synthesis from these various schools, we have derived the concept of "linkage." According to this principle, the internal problem-solving process of the user is seen as the essential starting point, but the process of searching for and retrieving new outside knowledge relevant to the problem-solving cycle is also vital.

Following completion of the literature survey, the Center began the two-year project to monitor innovation processes by mailed questionnaire in a national sample of 500 school districts. This survey examined the content areas in which innovations were taking place in different sizes of school districts and in different parts of the nation. It was intended to be an empirical follow-up to contrast theories of innovation with what was actually going on in the schools. The findings of this study are fully reported in Volume I of this report. However, it would be appropriate in introducing the case study portion of the project to recall a few salient findings from the survey. First of all, we were rather surprised at the *extent of innovation* reported. Of the 353 districts responding to the survey, 346 reported at least one major innovation and most reported several. When the number of innovations per district was correlated with several other district characteristics, it was found that several measures of *internal* resource linkage and utilization were related to overall innovativeness; these included the use of media centers and specialists, amount of in-service training and the use of lay advisory groups. Use of *external* resources such as ERIC, the USOE Regional Educational Laboratories, state education agencies, universities, foundations, and private companies were rarely mentioned compared to inside resources, and their use seemed to be partly a function of district size.

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*Subsequently reorganized as the National Center for Educational Communication before becoming part of NIE in 1972.

**D&U = Dissemination and Utilization.

The results of this survey support our contention that innovation process can be studied empirically and used to test hypotheses stemming from theory. However, the survey did not provide very much *depth* on any one case. The details describing the innovation, the process, and its consequences are provided on only a few lines of the form; hence, they do not provide satisfactory answers to many of the questions researchers or educators are likely to raise about particular cases.

Some of these shortcomings can be satisfied by taking a less quantitative case study approach to innovations, visiting sites and interviewing various persons at all levels. Some good case studies do exist. For example, Gross et al. (1971) developed an indepth case study of an attempt to implement the "catalytic model role" of teaching in an inner-city elementary school. By tracing the fate of the innovation over a year's time, they concluded that failure occurred not in the initial stages at which general openness and enthusiasm were evident, but later at the implementation phase when problems surfaced such as (1) teachers' lack of clarity about the innovation; (2) teachers' lack of needed capabilities; (3) the unavailability of required instructional materials; (4) incompatibility of organizational arrangements with the innovation; and (5) lack of staff motivation during the follow-through stages. None of these findings contradict results from our national survey; for example, teachers' lack of clarity was also cited by the superintendents as the prime barrier encountered in innovations nationally (Volume I, Chapter 8). But the case study findings add credibility and a better understanding of cause-and-effect relationships.

What most case studies lack, on the other hand, is comparability and generality. It is usually difficult to tell if a particular case is simply a unique situation or representative (as its authors usually hope) of patterns that apply generally to many educational settings. It is equally difficult, in most cases, to draw conclusions from reading and analysis of two or more case studies because authors work from different frameworks, ask different questions, and seek different answers to test different hypotheses. These are clearly some of the problems one is faced with in trying to draw general conclusions from Miles' (1964) fine collection.

To date, the only studies which have attempted to overcome the problem of comparability are those conducted under the auspices of the Center for Educational Research and Innovation, OECD, in 1971. Studies were undertaken in 11 countries and at three levels: (1) national centers (e.g., the Ontario Institute for Studies in Education in Canada); (2) regions or regional offices within countries (e.g., New Jersey State Department in the U.S.); and (3) schools. All studies followed a common framework although conducted by different scholars, and this fact will make them a useful archive for educational researchers interested in international comparisons. In fact, the project organizer, Per Dalin, has prepared a masterful synthesis and summary of the cases, using them to test assumptions of various theoretical models of innovation (Dalin, 1973).

While the OECD studies show the feasibility and utility of a comparative case study archive, they are not the total answer to our need for several reason First, they deliberately represent exemplary sites, not typical sites in their respective countries. Second, the focus of attention is not so much on the process of innovation within the setting as on description of the setting itself; hence, the sequence of events that transpire from initial awareness of need through implementation are not always well delineated. Third, the methodology was comparable only in broad terms, not in detail (probably a necessity in a cooperative multi-national project). Hence, quantitative aggregation and analysis of specific aspects across sites was not possible.

Recognizing the need for comparative case studies, in December of 1971 we requested and received additional support from the NCEC for the Innovation Process Survey so that five cases could be developed as a feasibility test of a methodology for comparative case study and analysis which would overcome the shortcomings of past projects.

B. HOW THE CASE STUDIES WERE CONDUCTED

1. Case Selection

Five cases were selected from the 353 responding districts in the national survey. There was no way that the five chosen could be a representative sample in a strict sense, but we felt we might find cases which were more or less typical of major types of innovation in districts of various size. We were also limited by budget to only five cases, and to cases which were within reasonable travel distance from Ann Arbor, Michigan. However, at the beginning of the project, the principal investigator was approached by a team of investigators from the University of Florida which was then beginning to study innovation procedures within that state under a state grant. Because this team was eager to observe our methodology in action in settings with which they were familiar, they offered to underwrite travel expenses for our two-man team. Thus, it was that two Florida sites were chosen for the first two cases to be conducted. Choice of the other three sites in three different states, Michigan, Illinois, and Wisconsin, was conditioned partly by proximity to Ann Arbor.

However, the more important conditions governing selection were the innovations, themselves. Table 2.1 of Volume I lists the major categories of innovation types which emerged from our analysis of 346 reported innovations. We selected one innovation from each type with the exception of "Curriculum Change and Instructional Facilities," since this latter category was considered of lesser significance in understanding overall change process. A fifth case (Troy, Michigan) was chosen primarily because it represented one of the very few instances where an unsuccessful innovation effort had been reported by our respondents.

As we shall see subsequently, the labelling of innovations may not signify very much about their essential content and the categories are far less distinct on closer inspection than they appeared to be on the questionnaire form. Nevertheless, the innovations are identified in Table 1.1 according to the original categories within which they were classified for Volume I, Chapter 2.

TABLE 1.1 Case Studies by Innovation Type

Innovation Category	Frequency of Report in Survey	Site	Page Numbers	Specific Label
1. Individualized Instruction and Team Teaching	95	Harlem Cty., Ill.	45-107	Individualized Instruction
2. Administrative Innovations	78	Milwaukee, Wisc.	109-192	"Program Improvement Proposals" (PIP) System
3. Programmatic Approaches to Instruction	65	Brevard Cty., Fla.	193-236	Talented Student Program (self-guided investigative projects)
4. Curriculum Change and Instructional Facilities	63	No Case		
5. Organizational Innovations	45	Marion Cty., Fla.	237-287	Middle School
		Troy, Mich.	289-381	Flexible Modular Scheduling (a case of unsuccessful innovation)

2. Procedure

Essential data for each case write-up was collected on a two-day site visit by a two-person team from the University of Michigan. Using interview schedules prepared in advance (see Appendix B), the team members jointly interviewed the two or three people most centrally identified with the innovation in the judgment of the superintendent. These key respondents were also asked to complete two checklists drawn from the original survey which called for response to 21 "innovation procedures" emphasized and 18 "barriers" which might have been encountered. Such data was then compared with the original survey responses. Subsequently, using a briefer schedule (Appendix C), other persons more peripherally connected to or impacted by the innovation were interviewed; in particular, teachers, but also students and community members where appropriate.

Emphasis was placed on obtaining as complete and coherent a narrative of what happened as possible with as little bias as possible. However, it was not possible to determine either in advance of the site visit or identically for all cases who the most appropriate respondents would be to meet this objective. Thus considerable latitude was left to the interviewers for on-the-spot judgments of who to see to get the "story." Thus they acted partly as social scientists and partly as investigative reporters.

Final responsibilities for the write-up of each case rested with one person. Usually, the second person on the team provided editorial critique of various drafts and helped to fill in gaps where necessary.

C. SOME TENTATIVE CONCLUSIONS FROM A COMPARATIVE ANALYSIS

Each reader can and should draw his own conclusions from a reading of these five cases. In fact, it has been our hope that such cases could constitute the beginning of an archive which could be probed by different scholars of varying persuasions and interests.

It is also partly true that each case stands on its own and should be seen as an organic entity unto itself which defies generalization but which yields insight into the process in the way its pieces, actors, and events fit together.

Each case writer has provided his or her own analysis of the events observed, in most cases following the lines proposed by previous studies of Havelock, et al. at Michigan. However, interpretations made in most cases are those of the writer and do not represent a "consensus" view of the project staff.

In the next few pages, the principal investigator will draw his own conclusions from an overview of all five cases, drawing principally on the descriptive, packaged and narrative portions of each case. We will endeavor, where possible, to draw connections back to the survey data reported in Volume I.

1. The Innovation

From a reading of the 346 open-ended responses to our survey question, "What was the most important innovation in your district in the 1970-71 school year," one is first struck by the tremendous diversity of responses. The term "educational innovation" can mean thousands of different things, some trivial like the purchase of new textbooks or tape recorders (though no one mentioned anything quite that trivial), some gigantic like the design and implementation of an entirely new concept of high school. Many skeptics and critics of U.S. public education may be inclined to believe that most of these efforts are of the trivial rather than the momentous variety, ripples or minor perturbations on a vast expanse of complacency. Our survey results did not confirm such a view. The first question for the case studies might therefore be: how authentic were the questionnaire responses? Were the actual innovations seen at close hand less earth-shaking than they appeared to be on the form?

a. Most Reported Innovations Represent Attempts at Fundamental Not Trivial Change

On the whole, it appears that in the five cases selected there was substantially more taking place in most cases than the innovation label implied on its face. For example in Marion County, Florida, the "middle school" innovation was not merely a rearrangement of grades but a complete restructuring of the instructional approach to grades 6 through 8 including team teaching in 4 teacher clusters, small group guidance periods, new prevocational instructional offerings for all students, a revamped intramural athletic program, and some measure of individualizing of instruction. Similarly in Troy, Michigan, "flexible modular scheduling" was a code word which covered a host of changes many far more significant than scheduling, per se. These include changing teachers' roles to be consultants to students, team teaching, informal teaching, human relations training, special group seminar-consultations for "problem" students (so-called "Cluster C"), colloquium for outside speakers on controversial subjects ("Cluster A") and non-grading! Thus for at least two of these five cases relatively innocuous-sounding terms cloak a host of changes, many of a very fundamental nature.

We also find in the Harlem Community school district case in Illinois that the "individual instruction" program involved extensive in-service training and teacher-initiated development of masses of new materials. Major changes were also effected in school buildings, a learning resources center was established, and all teachers were encouraged to submit proposals for their own change projects. At Harlem, the change also affected all teaching in all classrooms of the seven elementary schools in the district. It would be difficult to argue for the triviality of such an "innovation."

With regard to the large urban system of Milwaukee, we can be less certain. Our team was not able to follow up on each of the more than 60 projects inspired by the "Program Improvement Proposals" (PIP) mechanism. It is not likely that each and every project was momentous, but it is likely that the distribution of their project reflected a range of concerns and an average depth of involvement not unlike that which we found in the national sample of innovative projects.

Finally, in the "Talented Student" project in Brevard County Florida, we see a relatively modest program for a relatively small number of students, carried out without much apparent effect on the overall systems of instruction or curriculum.

b. Reported "Innovations" are Home-Grown Inventions, not Adoptions of Programs Developed Elsewhere

R&D centers and laboratories in universities and elsewhere will have a distorted picture of educational innovations if they imagine school districts as passive consumers of educational products and packaged programs. We noted in the survey findings that such products are almost never mentioned by brand name or by source. Similarly, we find in these five cases scant mention of any innovations being "adopted" or even "adapted" from outside. Outside advice from university and state experts abounds and is utilized, sometimes to good effect (Marion County, Florida), sometimes to questionable effect (Troy, Michigan). Nevertheless, the primary creative thrust is local, the terms used are local, and to a remarkable extent the intellectual, material, and financial resources utilized are local!

c. Innovations are not Gadgets

Another popular misconception regarding innovation is that it involves the influx and (naive) adoption of new technologies spilling over from the industrial-commercial sectors of the U.S. economy. There is scant evidence here to confirm such a notion. Hardware is rarely mentioned and then only as a minor supplement to the main innovative enterprise (e.g., use of computer programs to create schedules for Troy, Michigan).

2. Perceived Needs and Objectives to Which Innovation is Addressed

Each case reports some information on how needs were originally perceived and what motivations lay behind the drive to innovate. The findings in this regard are not very heartening.

a. Needs are Rarely Well Articulated at the Beginning

In no case do we find a clear statement of need generated and generally shared by those concerned in advance of proposing specific solutions. Teacher "dissatisfaction" and community dissatisfaction with high school achievement are vaguely cited in Harlem Community, Illinois. "Unrest" and "stagnation" as well as a need for "modernization" are cited at Troy. In Brevard County, Florida, the need was clearly sensed and articulated only by a single individual who objected to "block rate" instruction for an age group he considered critical. In Marion County, Florida, on the other hand there appears to have been a murky cauldron of needs boiling up related to de facto segregation, community conflict, and over-crowding, all of which loom larger than the manifest need to do something for a particular age group.

b. Needs are Rarely Assessed on a Formal Basis

Only in Milwaukee do we find a concerted effort to assess needs on a district-wide basis by means of formal surveys; in this case, such assessment took the form of an anonymous questionnaire to teachers approximately four years prior to the launching of the PIP program. Results of the survey seem to have had a kind of energizing effect on key groups in the system but have not had much influence on specifics of the innovation.

c. Objectives Are Usually Stated Formally on Paper Only When a Proposal for Funding is Called For

Apparently it continues to be quite difficult to state innovative objectives in a straightforward manner prior to the initiation of an innovation program. This may be viewed both positively and negatively. The lack of clear goal images in the Troy project in the early stages added to the rumor mill and sense of confusion that abounded in that system later. On the other hand, clearer goal statements at an early stage might have been too limiting in the Illinois case and too impolitic in the Marion County, Florida case.

The Milwaukee PIP system has one distinct advantage: by mimicking federal and state grant programs, they force the local innovator to come up with some sort of goal statements early in the process. These can later be used as one set of criteria for judging project successes. However, there seems to be a general recognition that pre-set goal statements cannot stand as the sole criteria of evaluation and that goals inevitably evolve, change, and can become clearer as a project develops.

3. Consequences: Anticipated and Otherwise

Unfortunately there are virtually no measures in existence that can be used to compare the relative effects and value of different innovation efforts in different settings. Thus, we must rely largely on the self report and judgment of those directly involved. By such measures it appears that most of these innovations were "successful" up to the time at which the site visit was conducted. This is an important qualification since the one "failure" in Troy, Michigan was also the case which was traced in most detail over the longest time period. The Marion County, Florida case seems to be one of failure (in one pilot school project) followed by success, at least in the early stages at a second school site. The Brevard County, Florida case is successful at least in its immediate and limited objectives of stirring new enthusiasm for learning in a small group of students. The Milwaukee PIP system is successful on a grander scale in increasing the number of proposals submitted from year to year and thereby presumably increasing the ferment for change. The initiation of PIP might be seen as having a similar impact on Milwaukee as the initiation of Title III of ESEA had on school districts across the country in the late 1960's. Finally in Harlem, Illinois, we seem to have the unequivocal success of a very complex and far reaching innovation as testified by all respondents on a number of dimensions.

Apart from "success" or "failure" of the innovation as a whole, there are many conclusions which can be drawn from this set of cases regarding "consequences" and their measurement. Here are a few.

a. All Innovations Have Multiple Impacts on Those Involved or Affected at Every Level

Major innovations which impact students inevitably impact teachers, administrators, parents and community members also. One aspect of the troubles at Troy was a failure to recognize the magnitude and totality of this impact. The innovation was introduced relatively suddenly and massively without adequate community awareness of what was about to happen and without much advance preparation of teachers and students. Indeed, it appears that the initiators of the innovation, themselves, did not foresee the consequences and persistently failed to foresee how the community would react. At Harlem, Illinois, on the other hand, a great emphasis on teacher retraining, gradual introduction, and home visits to all parents indicate a great appreciation of the magnitude of the effects.

In Milwaukee, by 1972, the evaluation staff had come to recognize the need to measure multiple consequences: they then asked projects to identify "process" outcomes (i.e., outcomes for teachers, administration, classroom management, etc.) separately from "product" outcomes (effects on student behavior, attitude, and performance). They also began at that time to separate cognitive, affective, and psychomotor outcomes. The same taxonomy of effects would be equally applicable to all our cases.

b. Long Term Consequences are Rarely Assessed and are Difficult to Assess

Schools do not seem to have a very long memory for past innovations and their long term effects seem to get blurred by other events and by the tendency of innovators to move on to other settings (by push or by pull). Milwaukee, perhaps as a function of size, appears to have had more resources to expend on evaluation and on the maintenance of continuity of change efforts over a number of years. Our visiting team was able to trace current innovation activity in that system back through several years of experience with the federal ESEA Title I projects to a teachers' poll of December, 1963.

In the Troy case, key personnel had already departed and newspaper files had to be used to get many of the facts straight. It also seemed clear in Troy that the innovation, although officially buried, was still having impacts, positive as well as negative: individual teachers had been opened up to new styles of teaching and managing the learning environment. Others had had their self-confidence shaken and/or had become soured on the very idea of change. The community had lived through an "event" which was a self-discovery by all of who they were and especially of what their differences were. Unfortunately, it seems as if Troy was not going to learn much from the episode; they were not going to move to a new state of equilibrium but rather through retrenchment and denial return to an old one.

c. Consequences are Rarely Conceived or Measured Primarily in Traditional Terms of Academic Achievement

It is clear that in most of these innovations, change was sought in the whole learning environment and in the whole person. In Harlem, Illinois, this is phrased in terms of "self-confidence," "self-guidance," and "happiness with school and with self." In Marion County, what was most noted was an increase in the "general tone of humaneness" plus decreases in such traditional school problems as truancy and vandalism.

Student achievement on normative measures is often cited along with other things and is particularly important in defending innovations to the community and to the school board, but it rarely is a crucial factor and never seems to be the most highly rated consequence in the eyes of the school staff, themselves.

d. Greater Freedom and Diversity is a Prized Objective and Consequence in All Innovations Studied

In spite of their different labels all these innovations seem to be aiming at the same general objective and are upholding the same general value, namely *individualism*. In Milwaukee's PIP, this takes the form of individual initiative to schools, principals, and teachers to generate projects. In Brevard County, Florida, it takes the form of individual initiative by students to design their own projects and, in effect, their own curriculum for part of their school life. In Troy, Michigan students could design their entire curriculum with teacher guidance, and, indeed, it was their inability to cope adequately with this amount of freedom and individuality at this age that contributed in a major way to the innovation's downfall.

At Harlem, Illinois, individualized and self-paced instruction for students was part of the story, but teachers were also called upon to develop new curricula on their own and to propose change projects of their own conception.

Finally, in the Marion County, Florida case, we also have a new stress on teachers and students getting to know each other as individuals and of students being given the opportunity of pacing their individual progress against their own past levels and their own goals rather than against general norms.

This theme of individualism obviously has deep roots in American history and culture, but its pervasiveness in contemporary innovation is an important finding of our study. It also raises as many questions as it answers, e.g.: is this uniquely a U.S. trend or is it world-wide? Is it a contemporary phenomenon or has it always been true of U.S. educational change efforts and values? Is it a passing phenomenon or will it be as pervasive as a goal in all future innovation activities?

This theme of individualism also seems to apply to the locals' perception of the innovative process itself, and may explain why almost all innovations are perceived as locally inspired and locally created and not as adoptions from outside sources.

4. The Process as a Whole: Is There a Pattern?

The key to understanding each case is the narrative history; this segment reconstructs the sequence of critical events leading to the adoption of the innovation. Can we perceive any pattern from these five narratives? Regrettably there is not enough detail on any one case nor are there anything like enough cases to draw satisfactory generalizations. Nevertheless, there are some similarities here which might suggest an eight step sequence as follows:

(1) Germination and advocacy of the idea usually by one person.

(2) Administrative sanction to proceed with something.

(3) A plan is sketched on paper.

(4) A pilot program or phase-in stage is conducted.

(5) The institution feels the impact and attempts to cope with it (resistance, questioning, absorbing, adapting, rejecting, endorsing).

(6) Clarifications and modifications are promulgated (response of the innovators to 5).

(7) There is an attempt to evaluate.

(8) There is a decision to continue, modify, or drop.

Following are some of the observations on the five cases which suggest to us this overall sequence.

(1) Germination

Donald Schon (1963) has coined the term "product champion" to describe how innovations are typically introduced in industrial settings. These people are not usually innovators or creators themselves but they pick the innovation up from someone or somewhere and carry it forward with their own energy, enthusiasm, entrepreneurship, and salesmanship. The same notion seems to apply quite well to what happens in these cases. None of them is, strictly speaking, an invention developed without inspiration from somewhere else, and each was sponsored and advocated from its earliest stages by a single individual who became identified with it. In three cases these were superintendents, in one case a principal (Troy) and in one case a school board member (Brevard).

Of equal interest is the fact that all three superintendents and the principal who played these product champion roles were new to their positions. Thus, they are probably coming in with fresh ideas from outside and with a desire to put their own stamp on the system.

(2) Administrative Sanction

The second stage seems to be the most predictable of all: formal approval to proceed from the local authorities. In all cases this was the school board and in all cases it happened rather early in the game. The seeming predictability of this pattern and the central role of the board in all cases suggests that there is at least one point in the process which is measurable and comparable across nearly all U.S. school districts. How *important* that decision point and process is remains to be seen, but the fact is that it is always mentioned by respondents and it is always a rather visible segment of the larger process.

(3) A Plan on Paper

Sometimes before but often after administrative approval is granted a plan is worked out, typically by administrative staff in various roles. This plan specifies what will actually be done and when. It generally turns out to be too loose or too vague or too impractical in one way or another but it acts as a guide to initial actions. Regrettably, the specific role and relative importance of such documents was not probed very deeply by our interviewing teams, nor was there a specific search, retrieval, and reading of such documents in chronological order. This might be an important area for future case analysis.

(4) The Pilot Year

Most plans call either for an initial pilot project or a gradual phasing in sequence over the first year, but this takes very different forms in the different cases. In Illinois the superintendent laid out a clear expectation at the start that eventually all teachers in all elementary classrooms would be individualizing all their instruction, but he also made it clear that it would start on a voluntary basis in some classrooms for some instruction, supported by heavy doses of in-service training. His approach seems to have been very successful. In the contrasting Troy case, there was virtually no attempt to phase in the program. It was implemented suddenly with little advance warning or preparation and it created shock waves in the system at all levels.

In Milwaukee and Brevard County, the first year was voluntary and the Boards seemed to be taking a "let's see what happens" stance. The number of responses and to some extent the quality of responses then became the criteria for a decision to continue.

In Marion County we see the concept of the pilot school which would serve as a kind of laboratory, demonstration, and training site for the rest of the system. What is most fascinating about the Marion case is the fact that the initial pilot failed and yet the system was able to put the pieces together for a second pilot school which seemed to be on the verge of success when our interviews took place. We will speculate further on why this happened later on in this analysis.

(5) Feeling the Impact and Coping

Many of these innovations may not give an adequate reflection of the types and amounts of resistance encountered after initial introduction, partly because four of the five were deemed "successful" and were being reported on after the fact.* Nevertheless, we can observe and infer various types of struggle going on as the idea of the innovation becomes a reality for the first time. The findings in the case studies strongly reflect the findings of the national survey with respect to barriers, namely that confusion among teachers about how to implement predominates. Thus, the heavy emphasis in Harlem, Illinois on advance teacher training seems very appropriate.

(6) Clarification and Modification

It is therefore not surprising that the next stage should usually involve the promulgation of "guidelines," redefined goals, and other specifics which clarify the innovation, specify how it is to be implemented, indicate forms and procedures, etc. In Marion County, Florida this took the form of a push for a new type of teacher certification (providing teachers in the new role with role definition, status, and a modicum of security). In Harlem, Illinois, new guidelines for teacher evaluation were issued. In Troy, Michigan, less appropriately perhaps, the clarification took the form of a proposal to the Kettering Foundation (subsequently funded) to set up the school as a demonstration site.

(7) Attempt to Evaluate

Sooner or later all systems feel a need to get some evaluative information on what has happened. In Harlem, Illinois, where plans and objectives had been specified in advance and where clear guidelines emerged, the "evaluation" seemed to be built-in, i.e., goals at each stage were met. The case does not provide too much in the way of specifics on how such measurements of goal attainment were made, however.

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*It has often been observed that conscious human memory of pain is rather poor and non-specific.

In Brevard County, Florida, the key evaluation was simple and direct: students reported to the board on what they had done. The project was relatively small and the number of "winners" was few, so that this was possible. If the program now expands to more students and the definition of "talented" is made broader, greater difficulties will arise.

Milwaukee, as a large district, had the singular advantage of a special evaluation staff. Nevertheless, they found evaluation of the diverse PIP projects almost hopelessly perplexing in the early stages and never arrived at a truly satisfactory method.

In the Troy case we find in the early stages little thought given to evaluation, but later on, as things go sour evaluation becomes an obsession with several outside groups becoming involved including the state education association and a large and prestigious local university. We also see here how evaluation can become a rather partisan enterprise with each party choosing its own preferred evaluators, methods, and criteria, and predictably finding evidence to support its own preconceptions.

(8) A Decision to Continue, Modify, or Drop

We add this stage to the sequence not because we see it clearly in every case, but because logically we sense that it must be there. It is clear enough in Troy that a "drop" decision was made, but it was a painful lingering decision, not fully implemented until at least two years after community and some teacher opposition had been fully mobilized.

In all the other cases, we sense that the story is incomplete, that "final" decisions have not been made and may depend on whether key innovators and advocates stay in the system or move on to other districts where they can innovate all over again.

This has been a very cursory overview of the "process" or what might be the process. Obviously, there are some consistent patterns, but there are just as many discontinuities which defy patterning. Complex innovations may involve 100 or more critical incidents or decision points before they run their course.* It is barely within our grasp to document and codify such events to see if a pattern of "stages" emerges which fits innovations as a whole or innovations within various categories.

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*See for example the detailed analysis of an innovation process by A. Goman (1974). Goman wrote a detailed narrative and then coded it into nearly 150 events or outcomes involving administrators, teachers and others responding in three ways: "supportive," "immolative" (destructive, negative), and "imitative." It is a most creative and instructive thesis which shows what can be done via well-conceived coding and plotting of case study material over time.

One obvious fact emerges or is reaffirmed by our analysis, that school districts are relatively stable institutions with decision-making patterns and roles which are highly predictable at certain points, e.g., the school board's approval. These bureaucratic consistencies undoubtedly have some meaning, and they surely make the process more accessible and visible for study.

5. Key Actors

a. The Superintendent

A persistent point of criticism of our national survey was the choice of the school superintendent as the respondent. No doubt, this is a biasing element, but it was one we felt we had to live with for two reasons: first, if we must choose one person as the representative of a system, there is no other who can be identified so clearly and consistently by function, role expectation, and responsibility. Secondly, there is consistent evidence from previous studies (e.g., Carlson, 1965) that the superintendent is very influential. Our case studies strongly confirm this choice. While it is true that the five selected innovations were nominated by superintendents (or their offices), on-site interviews with other system personnel provide the primary evidence for their centrality in the process.

In Harlem, Illinois and Milwaukee, a new superintendent enters the system and promulgates an innovation plan (in Milwaukee "a blueprint for change") largely of his own conception, though influenced by other sources. In Marion County, a superintendent tries the new approach, gets frustrated, but then moves on to the state department from which he still exerts positive influence. His successor picks up the idea with great enthusiasm and sponsors-shelters the reintroduction and successful implementation in the second "pilot" school.

In Troy, the superintendent gives ambivalent support and fails to act either as an effective spokesman with the board or as a buffer with community and the teachers' association. Ironically in the end, he is also a victim, being blamed along with the principal for what has happened and shunted out of office.

b. The Principal

The principal was clearly the key actor in the Troy case, making most of the external contacts, mobilizing the internal staff, and acting as a very visible charismatic leader of innovation. He also seemed to be essential to its maintenance: when he disappeared, it faded away.

In Marion County, Florida, the principal is again a crucial character. The whole project depends on his finesse in managing a new learning environment. Significantly, for the second and more successful pilot school the superintendent chooses one where the principal is already known to be sympathetic to "the humanistic approach."

Principals play important but less visible roles in the other cases. In the Harlem, Illinois case, they are rarely mentioned, perhaps because the superintendent's role is so dominant. In Brevard County and Milwaukee, they are key *gatekeepers* of the innovation. They decide whether their school will participate. Hence, gaining their participation becomes a key issue for the innovation managers.

c. Other Administrative Personnel

It seems clear that while the top and the bottom of the structure remain similar over the decades, school systems are becoming more complicated in the middle. This process may have been accelerated by the Elementary and Secondary Education Act of 1965 which provided the opportunity of a multitude of new school "projects" and hence the necessity of staff persons to write proposals and spend the money. We sense that many of these middle level personnel have similar functions as innovation managers, facilitators, or change agents, but they come with a bewildering array of titles. Here are a few who played key roles in different districts:

Harlem: "Curriculum facilitator" helped superintendent develop "guidelines" and planned in-service activities.

Troy: "Social Studies chairman" kept a file on advances in education, acting as key knowledge linker of principal to Trump material on f.m.s., and a member of early change team. Later became disenchanted vocal critic, and may have helped tumble it.

Marion County: "Middle school coordinator", a new role created with special state funds, was essential designer-implementer of the concept and became "program director" on the second pilot school (Howard). The foil for this person was the "Director of Curriculum Services" who became a funnel for criticism from principals.

Brevard County: The board assigns the execution of the idea to the "Assistant Superintendent for Instruction" who delegates it to a special office which is a hold-over from an old ESEA Title III project. Staff members with titles: "Director of Curriculum and Staff Development," and "Director of Research and Evaluation" design the entire project in detail including review, management and evaluation procedures. Their careful planning under severe time pressures seems to be the key factor in the innovation's success.

Milwaukee: A very central role here is played by the "Coordinator of Categorically Aided Programs." He is the designated leader of the project. He literally does "coordinate" a bewildering array of administrative staff persons including subject specialists, administrative department directors and the Department of Educational Research and Program Assessment.

There is too much diversity and complexity for us to draw too many generalizations from this list. Needless to say the people in the middle are awfully important. They seem to bear the brunt of the work for writing proposals, detailed designing, training, and assisting in implementation. The need to provide such persons with whatever knowledge and skills are available on the *innovation process* should be obvious.

d. Others

In one case, Brevard County, a school board member was the initiator of the idea and the key figure in getting initial acceptance from his colleagues. In no other case did individual board members stand out in this way either as promoters or critics.

No teachers and no students as individuals emerged in any of the reported cases as key actors at any stage (with the exception of Troy's social studies chairman).

In only one case did a complete outsider play a role as key actor in the process. This was the university professor who collaborated with the principal at Troy, designed the in-service training, and made connections with Kettering to acquire a grant. It is not so clear that his role was a positive one in the long run because of the principal's dependence on him and perhaps some resulting suspicions about this role by others. As the case writer puts it, "the outsider did not manage to build a solid relationship with personnel inside the system other than the principal, and he was never fully trusted by them."

6. Participation

A central finding of the survey was the overwhelming importance which respondents attributed to participation by various groups.* It appears that the careful planning and orchestration of the participation of teachers, students, and community members, more than any other factor, leads to success in acceptance and implementation. What do our five case studies add to our understanding of how participation takes place?

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*See, for example, Volume I, Table 6.1 on page 116 and discussion of key factors on page 168-9 and on Table 7.23 on page 170.

It might be useful to break down this discussion into seven types or levels of participation which correspond roughly to the sequence of problem-solving. Thus, we might start with (a) participation in *sensing a need for change*, and (b) *acquiring and in-putting ideas and information*. This would be followed by (c) the *making of key decisions* to authorize, fund, and implement the innovative program. Participation of various types may then take place as part of the process of (d) *being informed of the projected changes* and in (e) *designing and developing the specifics of implementation*. Another type of participation usually required consists of (f) *training* of the users or implementers. Finally, it is possible for various persons and groups to participate in (g) *evaluation*, either by expressing subjective reactions or by observing and measuring effects on self and others.

a. Participation in Sensing a Need for Change

This type of participation is most salient in the Milwaukee case study. There is a history of input by teachers and citizens dating back to the early 1960's. In 1963, there was an anonymous questionnaire of teachers which seems to have had a continuing influence in subsequent years. It was followed by the formation in 1966 of a "Citizens Advisory Committee" set up specifically to survey school needs.

In contrast in the Brevard County case, one board member seems to have sensed and articulated the need first and foremost, and it is very difficult to say whether it truly represented the desires and aspirations of a significant number of others.

In the other three cases various kinds of discontent are cited but the manner in which this is expressed is not made clear. "Stagnation" is cited in Troy, Michigan, but there might be some difficulty in participating in the expression of "stagnation" in a coherent way. As the case writer states, "the principal sensed a need for change through discussions with staff members; they were restless and wanted to change...(but)... diagnosis was inadequate and handled too hastily. Rather than working collaboratively with staff members to establish the system's goals and then analyzing the system to determine what activities could best meet these goals, the principal acted primarily as a solution-giver, proposing a solution which had personal appeal to himself."

Nevertheless in the apparently "successful" Harlem, Illinois case, the new superintendent did not do much better. "Upon entering the system in 1969, he felt that teachers already felt the need for change. His perception was that he had a mandate for change and should move quickly. The teachers support the perception that they felt a need for change. Some were considering leaving the system and in general, they were dissatisfied. Little *specific* effort was directed toward establishing the need for change since both the staff and the superintendent already recognized the need and agreed that it was present." In effect, the change initiators in Harlem and Troy acted pretty much the same way.

Finally, in Marion County, Florida, there were two kinds of pressures felt by the administration: overcrowding and racial imbalance. Again perhaps the needs were "obvious," but in the latter case there could also be socio-legal pressure from outside the district bearing down on them.

b. Participation in Acquiring and In-Putting Ideas and Information

Again at this stage, Milwaukee seems to have the widest and most complex focus of participation, with teachers, administrative staff, the citizens committee and an outside contractor all contributing their two-cents worth.

In Brevard County, we get the impression that it was principally the two staff members in the left-over Title III center who contributed ideas. The individual projects themselves were, of course, *student generated* and designed with consultation from "sponsors" who could be teachers, parents, or community members.

In Marion County, contributions came from various people at different times while the concept was evolving, but key inputs seemed to be from a small number of administrators, "the middle school coordinator," state officials, and personnel from the University of Florida.

Initially, at least, inputs at Troy came from the principal, himself, with help from the social studies chairman and a few others. At Harlem, Illinois, the major features of the plan seem to have come primarily from the superintendent, alone.

c. The Making of Key Decisions

Formal power for the major go-no-go decisions and for funding of projects seems in all cases to lie with the boards as noted earlier. In some cases, however, the board's role seems to have been fairly passive. Particularly with a new superintendent brought in to change things, as in Harlem, Illinois, there is an assumption that for an unspecified period of grace, he will have free reign. Thus, genuine decision-making power is delegated. In Troy, this delegation seems also to have applied to the principal working under a laissez-faire superintendent.

There is no case where teachers, students, or the community at large are allowed to make decisive actions regarding the innovation although presumably their influence is felt in various ways directly and indirectly.

d. Being Informed

All innovation projects of necessity must make an effort to inform those persons who will be affected in one way or another by the change, but procedures for doing so and the energy expended in this task varies tremendously even among our five cases. In Milwaukee and Brevard County, early problems were largely a matter of poor or inadequate or unstimulating information being conveyed from the central staff to the schools and particularly the school principals. The essential problems here seem to have been resolved in the following year by new guidelines, pamphlets (e.g., "It's a PIP"), forms, memos, and meetings.

In Troy, some effort was made by the principal to discuss the concept with teachers and students. This occurred in three stages. First, there was a meeting of department chairmen with the principal, assistant principal and guidance director. At this meeting it was agreed by vote (90%) to share the concept with the entire staff. Subsequently there was a student orientation consisting of an assembly plus small group meetings. In general at Troy socially interactive modes of communication were employed which may have been effective in building enthusiasm for the change, but an underemphasis on written forms may have had the off-setting consequence of confusion by many as to what might happen and what they were supposed to do.

Parents could learn of the innovation through open board meetings, but these were poorly attended in the early stages, and clearly did not serve the purpose of informing the community. Lack of a newsletter for parents or a concerted public relations effort soon turned the community into a rumor factory.

In Harlem, Illinois, we see a very different picture with respect to informing teachers and the community. In the first year, emphasis was placed on giving the teachers a thorough familiarity with the concepts involved. In the second year as implementation was taking place, a home visit was made to each parent. In addition to his own very active and visible role as spokesman-advocate for the innovation, the superintendent made good use of teacher-opinion leaders and parents as advocates and persuaders. Thus, there was a dove-tailing of formal and informal strategies of influence.

e. Participation in Designing and Developing the Specifics

Each of these innovations provided considerable latitude to "adopters" to design and test out for themselves the specifics of what they were going to do. In Brevard County, of course, this was in the hands of the student and his sponsor. In Milwaukee, project initiators within each school had wide latitude to choose what they would do.

In Troy, teachers decided on class size and length, curriculum revisions, and the scheduling of large and small classes. In fact, it was reported that teachers had great difficulty making these decisions with the limited guidelines handed down to them, and this was a source of tension. When Troy teachers in one department chose to retain some old features such as grading in the first year, they were over-ruled by the principal. Thus, perhaps there was freedom to change but no freedom to stay the same. A similar situation occurred in Marion County where teachers were asked to make significant shifts in their role behavior with respect to both students and other teachers. The anxiety provoked by this new "freedom" expressed itself in a call for new certification procedures.

Finally in the Harlem, Illinois case, we find participation in development in its most satisfactory form. Prior to the initiation of changes in the classroom, teachers met in a 2-week "Materials Development Workshop" in which they shared ideas and helped design significant parts of the new instructional system.

f. Participation in the Form of Training

It seems clear that radical changes in an instructional system as were contemplated in three of these cases, Harlem, Marion County, and Troy, require massive amounts of in-service training for teachers. Such training including college credit was provided eventually at all three sites but its need was anticipated fully only at Harlem. The first year of the change was set aside for teacher training and resource development with no expectations that new behaviors would be required until the second year. At Troy and Marion County, teachers felt as if they were thrust into a new situation without preparation or much advance warning. In both cases they adjusted, but in Troy there was a lingering resentment by a minority of teachers which added to the forces for rejection.

The type of training emphasized at Troy also proved controversial. Workshop sessions focussed on sensitivity training and affective learning to generate greater openness to change, but participation was selective and the effects on some participants were rumored to be negative.

g. Participation in Evaluation

By accident or design there were considerable opportunities to react to and evaluate the changes in an open fashion in all cases although reactions were not always influential with key decision makers. The pattern of participation-by-reaction was most extensive at Troy. Teachers' and students' reactions were polled and tabulated on more than one occasion, but their overwhelmingly positive response was not enough to save the day against an increasingly negative community reaction sensed by the board.

In Marion County, teachers expressed themselves on one occasion by a walk-out and on another occasion by a mass meeting. Evidently, it is not merely the holding of meetings but how they are conducted that is crucial for gaining acceptance. After initial orientation sessions with all school principals in the fall of 1967, each principal met with his own staff, but at the latter meetings in many cases considerable dissension occurred, forcing a limitation of the concept to a single school.

A most unique and successful form of citizen evaluation was solicited in Brevard County with the "project review council" of 20 community members carefully selected to represent community leadership interests.

Our overall analysis of the pattern of participation suggests not simply that it is important but that it bears an important sequential relationship to *planning*. Coherent plans for an innovation can probably be drafted only by a small number of people, and this should be done before mass participation by users takes place. Furthermore, planning must be careful and complete enough so that users don't feel too much confusion or anxiety about what they are to do. Most of all, the participation process, itself, should be planned; it should include both written and oral forms, informal and formal channels. It must be addressed to appropriate leaders, official and unofficial, to test and account for their reactions before the news fans out to everyone else.

Of course, these are not solid rules but they relate to a principal point that how "participation" takes place is vital to innovation success; it is not, however, a matter of simply bringing everyone together in one big happy gathering; it is a structured process in which everyone takes place at one time or another but only as appropriate and needed.

7. Other Process Factors

Surprisingly, we can discuss most of the factors related to innovation management under the rubric of "participation," but there are a few others which emerge in these cases which do not so clearly belong there.

In three cases, Harlem, Troy, and Milwaukee, materials and physical plant were cited as important process factors. The timing of delivery of new materials caused difficulties in all three cases. The Harlem and Troy projects also required major changes in building and classroom design and space utilization. These problems were overcome at both sites but the milling of students in the halls at Troy was very disturbing to the community which quickly got wind of the situation; this contributed in a major way to a continuing feeling that events in the school were out of control.

Another factor which pervades all cases is confusion among implementers (usually teachers) about what the innovation is and what specifically they are to do. This strongly confirms our finding from the survey that "confusion among teachers" was a major barrier to change (see Volume I, Chapter 8, Barrier Factor I). In part this confusion factor may be an anxiety about the unknown and a fear that one cannot handle a situation where there is (a) a lot of freedom to do what one pleases, but (b) a lack of clarity about the limits of that freedom and the risks that may be involved in stepping out on one's own. Another aspect may be purely rational; i.e., an innovation which is vaguely described may indeed be one which is poorly conceived and inappropriate to the situation at hand. In most of the cases studied here, the innovation developers were able to respond sooner or later with various guidelines and instructions which provided the needed clarification and made smoother implementation possible.

Another element which seemed to be important was the presence or absence of program elements which would create political divisiveness and controversy in the community, itself. This is particularly evident in the Troy case with the so-called "Cluster A" program in which controversial speakers were brought in from outside. Regardless of the intrinsic merits of such a speaker's program, it is evident that it contributed to wide-scale distrust of the school and attacks by conservative elements. This, in turn, jeopardized the larger and much more significant changes that were being attempted throughout the high school.

8. Utilization of Resources

A major focus of both the survey and the case studies was the utilization of resources of various kinds: information, materials, people, and dollars. In the survey volume we contrasted use of internal versus external resources and found that emphasis was heavily on the former, almost to the exclusion of the latter. In the case studies, we were able to probe this matter much further and to test, for example, whether such results reflected low awareness and salience of such outside resources rather than real use.

First of all, it is clear that resource utilization of various kinds was vital to all projects, and this included multiple uses of inside and outside resources. A few of the highlights might be noted.

a. Financial Resources

None of these projects was hindered in any significant way by lack of financial resources. Furthermore, most of the financial support came from the local tax base via school board approval. External funds were sometimes used to strengthen programs but seemed to be essential in only one (Marion County, Florida). In the Illinois case, a federal grant was obtained to support training of teacher aides. In Marion County, a planning grant was obtained under Title III of ESEA but of equal importance was a state fund, the "educational improvement expense fund which provided sustaining funds for in-service training. In Brevard County, Florida, funding was 100% local but the project could not have been undertaken had there not been a previous Title III project in the county which (1) provided a model for how the new project was designed and (2) had enabled the recruitment of the two project coordinators and the creation of the "Instructional and Program Materials Center."

The greatest irony in use of outside financial resources comes in the Troy case where a foundation grant was obtained. The funds from this grant were earmarked largely to allow the school to become a model demonstration-visitation site for other schools across the country. The hindsight of some informants in this case suggests that all such publicity may have actually been harmful. This is a matter which deserves more attention, however. It would seem that outside visitors would provide both stimulation and also support for a positive self-image by the Troy high school. It is also possible that visitors to

Troy during the heyday of the innovation did come away with new ideas which they were able to implement to good effect in other systems. This is a story which we could not follow as far as we might have. Indicative of the attitude toward outside sources which developed subsequently at Troy was the rejection of a Title III grant by the board in 1967.

b. Information and Materials Usage

To a large degree materials for all projects were locally generated. This includes project designs and guidelines, in-service training materials, and student curriculum materials. There is only rare mention of outside sources for such items. In Troy, there was material and a film emanating from Lloyd Trump. In Milwaukee, there was much use made of previous studies, guidelines and reports by advisory committees and outside consultants. There is also mention in the Brevard County case of some use of ERIC and other publications. One senses in general that there must have been considerable use of outside print sources at various times but that such use is either taken for granted or has very low salience so that it is not recalled in interviews one, two, or three years later.

c. Human Resource Usage

Above under "participation" we covered most aspects of personnel usage. In the Illinois case, consultative help was provided to teachers and course credit for in-service training was made available by Northern Illinois University.

In Marion County, there was extensive use of outside expertise prior to and during implementation of the second pilot school effort and such resources always seemed to play a positive supportive role. Three specific types are mentioned. First, there was a national expert who visited each school for one day and seems to have been a positive stimulator. Then there was continuing support from state department personnel, one of whom had formerly been superintendent of this district (a fact which seems to have had some importance). Thirdly, there was continuing assistance from the University of Florida in providing both consultation and in-service training with course credit.

Finally in Troy, we see both positive and negative aspects of outside human resource utilization. Without question, the principal received a lot of support, informational and emotional, from the state university professor. The latter also designed and helped provide in-service training for staff although the choice of training and trainees were later questioned and the process by which collaboration came about may have been inadequate.

Factions in Troy also called upon outside "experts" to provide evaluations when the innovation was in jeopardy, in one case the state education association and in the other the University of

Michigan. Neither group seemed to have had decisive influence on what eventually happened and the basis of their "expertise" was not clearly established to everyone's satisfaction.

D. THEORY VS. PRACTICE

Both the survey and the case studies were undertaken for two reasons. The first was to test a methodology for monitoring innovative processes in U.S. elementary and secondary education on a national basis. The second was to test certain conceptions arising from theory and past research which was summarized in the state-of-the-art review, *Planning for Innovation* (Havelock, et al., 1969). It is to the latter objective that we will address our remaining observations in this chapter.

Each case contains an extensive analysis of process and strategy observed in the light of current theory. Case writers took a broadly similar approach, focussing first on overall models and then on specific process factors. In the comparative analysis below, we will follow the same structure but the interpretations may differ from those of the case writers, themselves.

1. What Models of Change are Most Salient

Our case writers relied principally on two formulations of "models" of the change process, one emanating from a paper by Chin and Benne entitled "General Strategies for Effecting Changes in Human Systems" (Chapter 1.3 in Bennis, Benne and Chin, 1969), and the other emanating from our review of several dozen change "theories" in Havelock, et al. (1969, Chapters 10 and 11). Because these two schemas are similar but distinct, there may be some confusion in their usage here. Thus each case author briefly notes the model to which he is referring and reminds the reader of what it represents.

For our analysis, here, however, we have the further advantage of the factor analysis which showed how superintendents in 296* of the 353 responding school districts clustered with regard to different strategies (Volume I, Chapter 8). Table 1.2 summarizes these findings.

[Insert Table 1.2 here]

Table 1.3 outlines the primary similarities and differences. For the first two sets (reading horizontally) the three sources are in substantial agreement. For the last three rows, however, there are substantial differences The factor which emerged from our survey, which we called "strategic manipulati was best represented by three procedural items, "participation by key community leaders," "taking advantage of crisis situations," and "involvement of informal

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*Only complete responses to all 21 procedure items in the strategy checklist could be processed.

TABLE 1.2

The Factor Analysis

(Based on complete responses to 21 Procedure items from 296 School District Superintendents)
[Summary derived from Volume I, Tables 8.15 through 8.18]

		Varimax Rotation - Factor Loadings above .20				
		I	II	III	IV	V
FACTOR I	Problem-Solver Perspective					
	Maximizing chances of participation by many groups	.64				
	Finding shared values as a basis for working	.61			-.23	
	Providing a climate conducive to sharing ideas	.60			-.28	
	Stressing self-help by the users of the innovation	.58				
FACTOR II	RD&D Perspective					
	Systematic evaluation		.64			
	Solid research base		.64			
	Systematic planning	.22	.64			
	Adequate definition of objectives	.22	.60			
	Adequate diagnosis of the real educational need	.28	.43			
ACTOR III	Strategic Manipulation					
	Participation by key community leaders		.23	-.71		
	Taking advantage of crisis situations			-.47	-.35	
	Involvement of informal leaders of opinion inside the schools	.39		-.36	-.20	
ACTOR IV	Open Advocacy and Humane Dialectic (Greening of Education?)					
	Confrontation of differences	.21			-.69	
	Resolution of interpersonal conflicts	.32			-.55	
	Creating awareness of the need for change	.29	.31		-.50	
	Creating an awareness of alternative solutions	.28	.26		-.47	
	Providing a climate conducive to risk-taking	.37			-.46	
ACTOR V	Financial Capacity					
	Starting out with adequate financial resources to do the job					.55
PLEX ITEMS	Selecting a competent staff to implement change	.31	.32			
	Utilizing a number of different media to get new ideas across	.24	.34			
	Persistence by those who advocate the innovation	.26	.23		-.22	

TABLE 1.3 Models of Change from Three Sources

Bennis, Benne and Chin (1969)	Havelock, et al. (1969)	Survey-Factor Ana sis "Procedures"
Normative-reeducative (most aspects)	Problem-Solver	Problem-Solver
Empirical-rational	RD&D	RD&D
Normative-reeducative (some aspects, but no clear equivalent)	Social Interaction	Strategic Manipulation
Power-coercive (some aspects)	(no clear equivalent)	
(no clear equivalent)	(no clear equivalent)	Humane Dialectic (greening of educa

leaders of opinion inside the schools." In this viewpoint there appears to be a tendency to be sensitive to social groupings and leadership (as in the social interactionist model) and also to seize opportunities, perhaps in a somewhat Machiavellian fashion. Thus, there may be some similarities to what Chin and Benne call "power-coercive approaches to effecting change."

Finally there emerged from the survey factor analysis a unique cluster which was labelled in the first volume as "Conflict Linkage" or "Open Advocacy and Human Revolution," but which we here label as "Humane Dialectic." It included such items as "confrontation of differences," "resolution of interpersonal conflicts," "creating awareness of (a) need for change"...and (b)"...alternative solutions" and "providing a climate conducive to risk taking." In other words, it suggests that innovation above all requires stimulation and challenge and there is an optimistic belief that risk taking and confrontation of differences can lead to changes which are accepted by all.

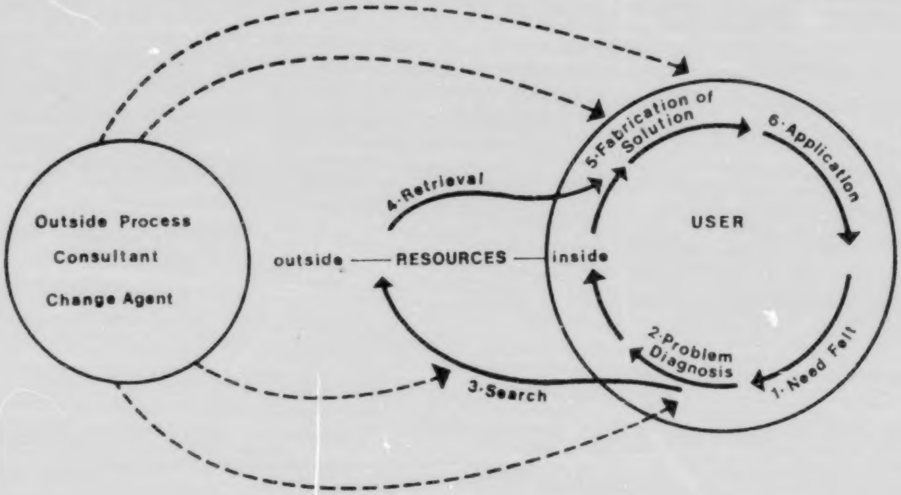
There are no clear equivalents to this conception of innovation in either of the theoretical formulations proposed by Havelock and by Chin and Benne.

In the analysis below we will treat each of these clusters in turn beginning with a brief resume of the theoretical-empirical background, followed by comments derived from the five cases.

a. The Problem-Solver (normative-reeducative) Model

What we call the "problem-solving" model rests on the primary assumption that innovation is a part of a problem-solving process which goes on inside the user. Problem-solving is usually seen as a patterned sequence of activities beginning with a *need,* sensed and articulated by the client, which is translated into a *problem* statement and *diagnosis.* When he has thus formulated a problem statement, the client-user is able to conduct a meaningful *search* and *retrieval* of ideas and information which can be used in formulating or selecting the *innovation.* Finally, the user needs to concern himself with *adapting* the innovation, *trying out and evaluating* its

FIGURE 1.1 The Problem-Solver Perspective



effectiveness in *satisfying* his original need. The focus of this orientation is the user, himself, his needs and what he does about satisfying his needs. The role of outsiders is therefore consultative or collaborative. The outside change agent may assist the user either by providing new ideas and innovations specific to the diagnosis or by providing guidance on the process of problem-solving at any or all of the indicated stages.

At least five points are generally stressed by advocates of this orientation: first, the user need is the paramount consideration and the only acceptable value-stance for the change; second, that diagnosis of need always has to be an integral part of the total process; third, that the outside change agent should be nondirective, rarely, if ever, violating the integrity of the user by placing himself in a directive or expert status; fourth, that the internal resources, i.e., those resources already existing and easily accessible within the client system, Itself, should always be fully utilized; and fifth, that self-initiated and self-applied innovation will have the strongest user commitment and the best chances for long-term survival.

If the "user" is a group or an organization, the problem-solver consultant role also is likely to include training in group communication, the building of group or organizational self-awareness and cohesiveness, and emphasis on collaboration among the members of the user system in solving their problems with as wide a circle of participation as possible.

A few of the major advocates of this orientation are Lippitt, et al. (1958), Watson (1967), Jung (1970), and Thelen (1967). Most of those who belong to this school are social psychologists in the group dynamics-human relations tradition.

The views of many superintendents in our national survey reflected this perspective. (See Table 1.2.)

Only two of the items have any substantial relationship to any other factors. Sharing, participation, and self-help are the core ideas. Less strongly related are informal leader involvement, risk taking, conflict resolution, and competence of staff. We would guess that "competence" on this factor means competence in human relations above all.

What do our case studies reveal with regard to this model? Overall, it would seem that the innovations, per se, reflect a similar philosophy. That is, in stressing individual creative effort, initiative, and freedom, they endorse the notion that the individual school, the individual teacher, or the individual pupil is each a problem-solving system unto himself. For example, in the Marion County case, teachers under the new system were supposed to "learn to take student concerns as the prime source of curricular planning." The same theme ran across all cases.

There is also stress in all cases on participation in the problem-solving process although who participates varies widely. Procedures corresponding to the P-S model are strongly endorsed in all sites, most strongly in Harlem, Illinois and Brevard County, Florida.
Of the procedures emphasized in Troy, those in this category rated relatively high; and some verbal reports confirm those ratings. But the problem-solving emphasis in Troy was not perceived by everyone and was not applied equally. The principal did not include a large number of persons in his decision-making and planning process. Furthermore, while sensitivity training was used as a prime tool for increasing openness to change (a typical symptom of a P-S orientation) it was used selectively so that some people felt left out.

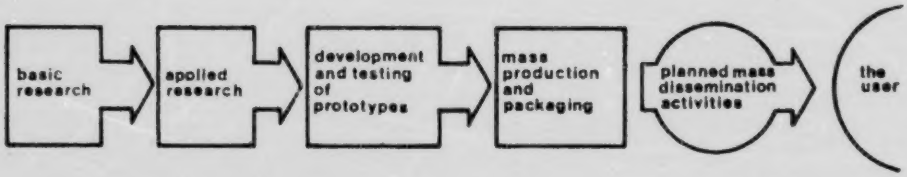
It is fair to say that none of the cases represents P-S in any ideal form although all contained elements of it, especially in the implementation stages.

b. The RD&D (empirical-rational) Model

The RD&D perspective is guided by at least five assumptions. First, it assumes that there should be a *rational sequence* in the evolution and application of an innovation. This sequence should include research, development, and packaging before mass dissemination takes place. Second, it assumes that there has to be planning, usually on a massive scale over a long time span. Such planning and ordering of stages from initiation to the achievement of stated objectives allows for systematic budgeting, monitoring, and scientific evaluation at each stage. Third, it assumes that there has to be a *division and coordination of labor* to accord with the rational sequence and the planning. Fourth, it makes the assumption of a more-or-less *passive but rational consumer* who will accept and adopt the innovation if it is offered to him in the right place at the right time and in the right form. Fifth, the proponents of this viewpoint are willing to accept the fact of high initial development cost prior to any dissemination activity because of the anticipated long-term benefits in *efficacy* and *quality* of the innovation and its suitability for *mass audience dissemination.*

Prototypes of this RD&D model are presumed to exist in industry and agriculture. Figure 1.2 provides an outline of its major components. Within the field of education major advocates of this viewpoint have been Henry M. Brickell (1961), Francis S. Chase (1968), and David L. Clark and Egon Guba (1965 a and b).

FIGURE 1.2 The Research, Development, and Diffusion Perspective


basic research
applied research
development and testing of prototypes
mass production and packaging
planned mass dissemination activities
the user

As illustrated in Table 1.2, Factor II, it is fairly clear that there is a subgroup of superintendents who follow the RD&D philosophy as distinct from the problem-solver philosophy. Points of agreement between the two schools of thought center on the need for diagnosis and for generating an awareness of the need for change. We would expect, however, that the locus of need identification is seen somewhat differently by the two groups, the problem-solvers emphasizing need awareness and diagnosis by users and RD&D advocates emphasizing need determination by experts. Again for the "competence" item we would guess that a very different type of competence is stressed here, namely competence in research, evaluation, and systematic planning.

Among the cases the most emphasis on an RD&D model appears to be Milwaukee (1) where needs were assessed in *quantitative* terms at an early stage, (2) where the new superintendent formulated a "blueprint for change" including 25 specific areas, (3) where a formal review process was initiated at an early stage, (4) where a "Department of Educational Research and Program Assessment" was established and played a major role in project screening and evaluation. In general our survey indicated that very large districts like Milwaukee had such capacities and thought they were important.

In Harlem, Illinois, we sense much less emphasis on RD&D procedures. There is almost no mention of research, per se, or an outside evaluation. On the other hand, planning appears to have been well thought out and extensive; indeed, it is suggested that such planning was the key to success.

In Troy, there was apparently some research basis for the flexible modular scheduling innovation, itself, but not for all the other items which eventually became part of the innovation such as "non-grading" and "Clusters A and (." Respondents agreed in rating the item "solid research base" between "slight" (2) and "none" (1) (average 1.8). This was the lowest rating of any procedural item for any of the case study districts. In the early stages at Troy there was also very little emphasis on evaluation and no evaluation accompanied the final report on the foundation grant. Lack of supporting quantitative evidence may have played a role in weakening the position of the innovation's advocates although this is by no means certain. What seems more probable is that a more concerted planning effort particularly with regard to teacher and community participation would have paid off.

In Marion County, planning in the early stages also seems to have been muddled but was greatly improved prior to the initiation of a second pilot school. With help from a Title III planning grant, in 1969 a "5 year master plan" was issued with tailor-made transition plans for five future middle schools. There is also mention in Marion County of development of "UNIPACS," curriculum modules specifically designed for the middle school context. We do not know for sure whether this represents a "development" effort in the sense proposed by RD&D.

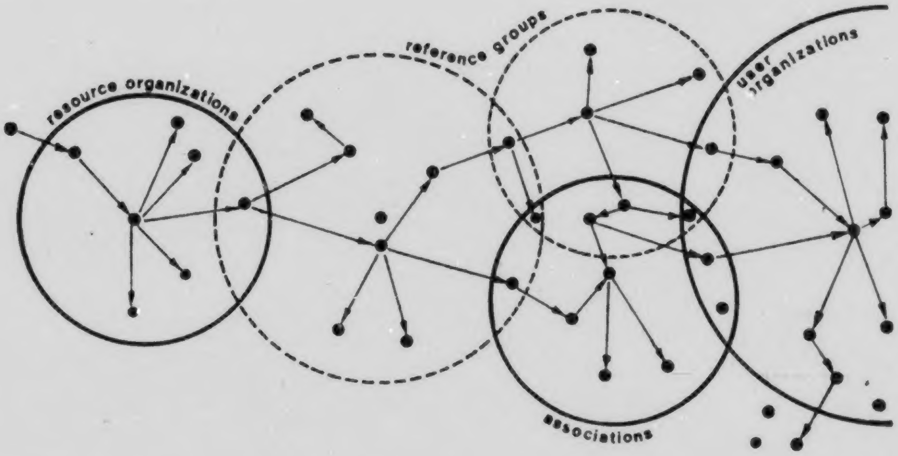
c. Strategic Manipulation (Power-Coercion plus use of Social Interaction)

A third perspective which we described in the literature review (Havelock, et al., 1969) as "Social Interaction" places emphasis on the patterns by which innovations diffuse through a social system. Five generalizations about the process are usually emphasized and are supported by empirical research from rural sociology, medical sociology, and from education:

(1) that the individual user or adopter belongs to a *network of social relations* which largely influences his adoption behavior; (2) that his *place in the network* (centrality, peripherality, isolation) is a good predictor of his rate of acceptance of new ideas; (3) that *informal personal contact* is a vital part of the influence and adoption process; (4) that *group membership and reference group identifications*

are major predictors of individual adoption; (5) that the rate of diffusion through a social system follows a *predictable S-curve pattern* (very slow beginning followed by a period of very rapid diffusion, followed in turn by a long late adopter or "laggard" period).

FIGURE 1.3 The Social Interaction Perspective



Key:
●● Individuals in the social system.
⟶ Flow of new knowledge.
) Formal organizational structures.
) Informal structures.

Factor III in Table 1.2 is less clearly tied to our prior theoretical expectations but shows an interesting pattern. Evidently some superintendents view participation by key persons more as a strategic necessity for getting things done than as an aspect of human relations philosophy. As noted earlier, the association of the item "taking advantage of crisis" almost suggests a Machiaveilian orientation. Clearly Factor III superintendents believe strongly in "social interaction" and utilizing opinion leadership. Factor III may also represent political awareness and concern for handling school district decision-making within the larger socio-political arena of the community as a whole. It would be interesting to see if Factor III superintendents have a higher survival rate than their colleagues.

It may be that such superintendents are more aware of political power and how to use it. In this connection, it is appropriate to quote Chin and Benne's comments on their meaning for "power-coercive approaches."

> "In general, power-coercive strategies of changing seek to mass political and economic power behind the change goals which the strategists of change have decided are desirable. Those who oppose these goals, if they adopt the same strategy, seek to mass political and economic power in opposition. The strategy thus tends to divide the society when there is anything like a division of opinion and of power in that society.
>
> When a person or group is entrenched in power in a social system, in command of political legitimacy and of political and economic sanctions, that person or group can use power-coercive strategies in effecting changes, which they consider desirable, without much awareness on the part of those out of power in the system that such strategies are being employed. A power-coercive way of making decisions is accepted as in the nature of things. The use of such strategies by those in legitimate control of various social systems in our society is much more widespread than most of us might at first be willing or able to admit. This is true in educational systems as well as in other social systems."*

In these five cases we can note few examples of anybody using brute-force to get what they want, but the timely, judicious, and strategic use of legitimate power is evident in all of them. As we noted earlier in the section on "key actors," these innovations were very largely shaped by single individuals in positions of power. It seems that in the beginning there is discontent, vaguely articulated, sometimes very widespread, but expressed in school board action to bring in a new leader to change things or set them right. The new leader has a period of grace in which he can propose and get easy approval for many kinds of changes; indeed, it may be expected of him. Thus in effect the superintendent, or in some cases the principal, has extraordinary powers for a short time after he takes office; how he uses that power then becomes terribly important for his own survival and for the survival of the innovation he introduces. In the Harlem case, we see him using this power to act very decisively but judiciously. He does not provide many alternatives and he does not act very collaboratively in choosing the innovation, but he does think through the process of informing and training all those who will be affected, and he times the introduction of the changes to minimize the risk and threat to individual teachers. The Harlem case study also relates the fact that the superintendent makes good use of opinion leaders among teachers and parents who help to explain the innovation to their peers. This strategy is coupled with the use of other media such as training workshops, home visits, coffee clatches, and "guidelines" which combine to produce widespread acceptance.

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*Bennis, Benne, and Chin (1969), p. 53.

At Troy, the principal also acts decisively in the early stages but his mandate is not nearly as clear and his power is not that of a superintendent. In fact, the superintendent is reported to be ambivalent about the changes being made, and does not act as an effective spokesman either to the board or to the community.

It also appears that there is a disregard by the principal of "social interaction" principles. He does not retain the support of key opinion leaders such as the social studies chairman and he does not work through established groups in or out of school to gain support.

The Brevard County case also illustrates the importance of these factors in bringing about change. The key initiator, a board member, makes effective and decisive use of his power both formal and informal to gain acceptance from his colleagues and acquiescence from the administration. The 2-man development team works effectively under heavy deadline pressure to come up with a workable plan. In their plan they also take advantage of social interaction forces in the community by proposing establishment of a 20 member review "council" of leading citizens in the local community.

The Milwaukee case also contains examples of good use of representative groups and informal leadership in a very complex situation. There is good use of boards and ad hoc citizens committees not only to establish legitimacy of the proposals but to accomplish important review tasks.

d. The Humane Dialectic Model

The fourth factor shown in Table 1.2 appears to represent the most radical view of the change process among those identified, emphasizing both conflict and openness. It may be closely aligned with a "conflict" model of change and with the approaches to innovation which might be associated with the "new politics" of education. There is implicit in this cluster the notion that fundamental change is needed and that such change is likely to involve a lot of conflict and risk. It is also implied, however, that differences can be resolved in a spirit of openness through a common recognition of need and shared values.

This model finds its clearest manifestation in the Troy case where many changes were introduced, where there was a good deal of freedom to experiment for individual students and teachers, and where many of the changes brought forth conflicts within the school and outside. Unfortunately at Troy, however, the mechanisms for coping with the uncertainty and the conflict were not present, and the "dialectic process" ended with the rejection of most aspects of the innovation and a return to the original traditional equilibrium.

In Harlem, Illinois, there was a similar emphasis on risk taking (by teachers), awareness of the need for change, and a much higher emphasis on resolving conflicts than on confronting differences.

H-E-L-P S-C-O-R-E-S

A Checklist for Planning and Diagnosing Helping Relationships

How General Factors Relate to:

GENERAL CHANGE PROCESS FACTORS	RESOURCERS (PERSONS & SYSTEMS) --- SENDERS-DISSEMINATORS (Who)	USERS (PERSONS & SYSTEMS) --- CONSUMERS-CLIENTS (To Whom)	MESSAGE --- KNOWLEDGE INNOVATION (What)	MEDIUM --- CHANNEL-STRATEGY - TACTICS (How)
Homophily	Similarity to user in age, sex, educ. occup. role and background, soc. econ. background appearance, life style, speech, modes of thought, values, etc. Also similarity in these respects to other resource persons.	Similarity to resourcer in age, sex, educ., occup. role and background, soc. econ. background, appearance, life style, speech, modes of thought, values, etc. Also similarities - homogeneity among members of user system and between user systems.	Similar to other messages typically received. Similar content.	Similar or same medium as typically used by users. Similar, familiar language, style.
Empathy	Understanding and appreciation of user's situation, needs, problem-solving process, values, etc.	Understanding and appreciation of resourcer's capacity, limitations, needs, processes, values.	Relatedness and congruity to user's situation, needs, processes, values.	Allows two-way communcation of needs, processes, values.
Linkage	Collaboration, two-way interaction with user and other resources. Simulation of user's problem-solving process.	Collaboration, two-way interaction with other users and resources. Simulation of resource system's R&D process.	Relevance to user. Adequacy of derivation and congruence with scientific knowledge.	Allows direct contact. Two-way interaction.
Proximity	Closeness and ready access to diverse resources and to users. Cosmopoliteness.	Closeness and ready access to resources and other users. Cosmopoliteness.		Easily accessible medium. Brings resources and user together, cuts distance between them.

How General Factors Relate to:

GENERAL CHANGE PROCESS FACTORS	RESOURCERS (PERSONS & SYSTEMS) --- SENDERS-DISSEMINATORS (Who)	USERS (PERSONS & SYSTEMS) --- CONSUMERS-CLIENTS (To Whom)	MESSAGE --- KNOWLEDGE INNOVATION (What)	MEDIUM --- CHANNEL-STRATEGY - TACTICS (How)
Structuring	Systematic planning of D&U efforts. Division of labor and coordination.	Systematic planning and execution of problem-solving efforts. Integrated social organization of receiver system.	Coherence. Systematic preparation (design, test, package).	Systematic strategy. Timing to fit user's problem-solving cycle.
Capacity	Ability to summon and invest diverse resources. Skill and experience in the helping-resource person role. Power, capital.	Ability to assemble and invest internal resources. Self-confidence, intelligence. Amount of available time, energy, capital. Skill, sophistication.	Innovations which result from heavy investment and sophisticated design and development will diffuse more effectively.	Capacity of medium to carry maximum information. Accessibility to maximum number of users in minimum time at minimum cost.
Openness	Willingness to help. Readiness to be influenced by user feedback and by new scientific knowledge. Flexibility and accessibility.	Willingness to be helped, desire to change, to see potential of outside resources. Active seeking and willingness to adapt outside resources.	Adaptability, divisibility, demonstrability of the innovation.	Flexible strategies. Best medium allows continual communications between sender and receiver about the innovation.
Reward	Reward for investment in D&U activities in terms of dollars, recognition, knowledge, self-esteem.	Past experience of reward for utilization effort. Return on effort invested in dollars, time, capacity, growth, well-being.	Relative advantage, profitability. Time and labor saving potential. Life-liberty-happiness benefit potential.	Medium which can convey feedback (+ and - reinf.). Most effective medium has best reward history for sender and receiver.
Energy	Willingness, ability to invest time, to persist in the face of difficulties. Ability to energize other resourcers and users, to sustain high expectations and positive images of potential.	Willingness to expend effort especially over the long haul to make change work. Enthusiasm, dedication, commitment to change, and to continued use of resourcer.	Forceful, inspiring discontent with status quo, desire to move to new state. Also redundancy: key aspects of message should be repeated as themes throughout total message package.	Should have impact for the particular user. Should also allow for redundancy--repeated sending-receiving on same-different channels.
Synergy	The number and diversity of resource persons. Continuity and synchronization of effort.	The number and diversity of different users reached will accelerate and diffusion to social system as a whole.	The number and variety of forms in which the message appears and the continuity among forms.	The number, diversity, and continuity of media used to transmit the message.

It would seem that "humane dialectic" is itself a rather risky strategy if it is not well planned for and controlled or tempered in some way. Simply bombarding our schools with new ideas will probably not lead to many successful implementations of desired changes.

2. H-E-L-P S-C-O-R-E-S: An Approach to the Analysis of Process Factors

In the concluding chapter of our review of the research literature on dissemination and utilization (Havelock, et al., 1969, Chapter 11), we tried to pull together most of the findings from different sources under seven code words which we labelled "factors." These seven factors, "linkage," "structure," "openness," "capacity," "reward," "proximity," and "synergy" seemed to serve pretty well as a shorthand summary of findings from many hundreds of studies of diffusion and communication as well as from social and organizational psychology. It was also suggested that they could be used as a kind of checklist of process items to worry about for anyone trying to communicate expert knowledge or trying to serve as a helper or "change agent" for a client system.

We have subsequently reworked this list of factors with the help of Everett Rogers' second edition of his review of diffusion studies (Rogers and Shoemaker, 1971), adding three new factors which seemed to have been missing from our original schema. These three are "homophily," "empathy," and "energy." In Table 1.4 these ten factors have been rearranged to spell the acronym "HELP-SCORES" and basic points about each are listed in the context of the communication formula: "resourcer," "user," "message," and "medium." By "resourcer" we mean to signify any person or group who is sending the message or is cast in the role of helper, change agent, consultant, disseminator, provider of knowledge, innovations, products, services, etc. By "user" we mean to signify those people for whom the help, service, information, or product is intended.

[Insert Table 1.4 here]

Each of the case study authors has worked through this schema in seeking to explain some of the phenomena observed in their cases, and we will not repeat these analyses here. However, to highlight each of these themes, we can cite a few of the most salient examples from an overview of the five cases.

Homophily

Innovations which come from the outside are, by definition, heterophilous (or non-homophilous). The essential point to consider under this factor is how much of the heterophily is intrinsic to the innovation and how much can be scraped off and replaced by things which are familiar. Homophily was a major problem in Troy. It would not have been difficult to introduce "flexible modular scheduling" if this was all there was to it, but several other elements were introduced at the same time and all were more or less strange to most teachers, students, and parents in this middle class-working class community. The changes were radical by any standard, but the community was essentially conservative in outlook. This situation was greatly exacerbated by the outside speakers program ("Cluster A") which brought to the community people (for Troy at least) very strange ideas, dress, appearance, habits, and life styles. Furthermore the mode of in-service training provided for teachers was non-traditional and hence heterophilous for most teachers.

Empathy

When homophily between resourcer and user is lacking on one or another basic and salient characteristic, it is most important to have understanding and appreciation of the other and to give signs which show this understanding. There was one salient instance in these case studies where this appeared to be lacking, again in Troy, where the outside trainer was described by a respondent as "flippant and insulting" in response to questions concerning the value of the sensitivity training approach.

On the other hand there were attempts made on several occasions in Troy to get direct quantitative feedback from teachers and students regarding the program. Unfortunately, in the end, the board did not take much cognizance of the positive nature of this feedback in their decision to terminate.

In the Marion, Florida case, we also have an indication of an empathy problem in the pilot schools between the class and ethnic backgrounds of teachers vs. students. In part, the in-service program in Marion County was designed to increase teacher empathy for students.

As we noted earlier, the initiative and the driving force behind many of these changes come from single individuals in positions of power who moved decisively at the opportune moment. It was important for these individuals to have an understanding of the members of their respective systems, what their needs and limits were,and how much they could take. Those who used power successfully got results partly because they had this sense of where their people were at.

Linkage

The number of connections and contacts between relevant members of the innovating system is also very important for both gaining acceptance and implementation. In the Troy case, the evaluations from the education association stated that there was "communication breakdown at all levels." In fact, there seems to have been intense communication within subgroups among the teachers and in the community, but the groups were not talking to each other. The lack of any formal channels to parents such as might have been afforded by a newsletter was also noted in the Troy case.

A number of positive instances of linkage are cited in other cases, two of which are outstanding. In the Brevard County, Talented Student Program, the special council of leading citizens represented very effective community linkage and insured the program's survival. Likewise, in Harlem, Illinois, the policy of home visits to each parent represented a thorough appreciation of the linkage factor.

Linkage to outside sources was also important for many innovations, but particularly in the Marion County, Florida, case.

Proximity

The significance of the proximity factor emerges from the very heavy reliance in all cases on local talent, local ideas, and local resources in designing, developing, and implementing the innovation. There is also an indication in the Troy case that no models of flexible modular scheduling were available in nearby districts, necessitating long range field trips by some staff members, and the use of a computer servicing facility more than 2,000 miles away. The principal's reliance on expertise which was remote from his district may have added to his problems to some extent.

Structuring

The best example of structuring comes from the Harlem, Illinois, case where the superintendent developed a phase-in plan which included training, materials development, try-out, and adoption in a specific and coherent sequence. Similarly in Milwaukee, Marion County, and Brevard County, the existence of master plans and guidelines played an important and positive role. It is worth recalling that confusion among teachers about the purpose of the innovation was cited as the most important barrier factor in the national survey, and our case studies strongly confirm this finding. In most cases a direct and well-structured response to this need, plus appropriate training, were sufficient to cope with the problem. The instructional training approach followed in the Troy case might have been appropriate under other circumstances, but the complexity of the innovation required a structured response for many of the teachers and a much more thorough planning effort with respect to training, involvement of students and parents, and provision for students with different needs.

Capacity

Capacity in financial terms surprisingly did not seem to be a barrier in any of these cases. There is no mention of a situation in which specific changes, additions, materials, or training were blocked or reduced by lack of funds. Indeed, it appeared that if the system were motivated to move in a certain direction, local funds could almost always be authorized. In the Troy case, funds coming from an outside source (the foundation) seemed to be almost too much to use before the system was really ready for it.

In the large system of Milwaukee, there was an added capacity factor in being able to centralize evaluation services in the research unit, a luxury which the others probably could not afford. On the other hand, ratings of "barrier" items related to financial capacity were also highest in Milwaukee. Apparently there was some frustration by project administrators that they could not fund all the worthwhile projects which were proposed.

There are also no clear examples where programs failed because of a lack of capacity or talent by individuals along the line. The confusion among teachers about some of these innovations was not seen as a function of limited capacity on their part and was surmountable with appropriate cognitive inputs.

Once again the Troy case offers some examples where the "capacity" factor becomes salient. One point mentioned was increasing overcrowding due to a rapid increase in the area population during the period when implementation and consolidation of the innovation were supposed to be taking place. Combined with this increasing pressure on the system was the fact that the innovation was complex and had many facets, some requiring new cognitive and technical skills, some requiring attitude change, and some requiring changes in physical plant and space usage. In short, there was a severe overload problem for the adopting system.

Finally in Troy, we see problems resulting from the differential capacities of different members of the system. For example, some students thrived under a new regime which gave a lot of responsibility for self-management to the students and removed many of the controls. But for some other students, the new freedom seemed to be too much so that on the one hand they were lost and on the other they exploited the changed situation in ways that incurred community anxieties.

Openness

The problem of different student capacities at Troy illustrates another important process factor, namely the *flexibility* of a program in meeting individual differences. As we noted earlier, each of these innovations was intended to open up the system in some way or other by providing more individual autonomy and spreading decision-making power over curriculum and instruction to lower and lower levels. But in Troy, at least, there may not have been enough openness by the innovators themselves to the needs and norms of their own relatively conservative system and community. Openness, flexibility, and adaptibility therefore must apply equally to the change agent and the changee.

In the Harlem, Illinois, case, there was also stress on the need to give teachers more freedom to *make mistakes* during the critical trial period. A similar stance was taken in the Milwaukee case by the new superintendent who gave strong support for risk taking in the PIP's.

Openness to change in general does not seem to have been a major problem at the beginning in any of these cases with the possible exception of Marion, County, where outside pressures for desegregation entered the picture. Even in Troy the teachers entered the program "with a spirit of adventure and anticipation." In the Brevard County case the fact that all twenty of the key community leaders accepted appointment to the special council is very significant.

In Milwaukee, it is reported that there has been a history of innovativeness (80 projects between 1965 and 1968 alone). Thus, there was an atmosphere which allowed for a very wide open program at the beginning.

Reward

Although we can be sure that incentives of various sorts played a major role in each of these cases, we can cite few examples where rewards per se were dramatically salient. In three cases, Harlem, Troy, and Marion County, college credit for in-service training was deemed to be an important incentive and was arranged for. The concern in Marion County about certification the new role of middle school teacher might also partially represent the reward factor in operation. In both Harlem and Marion County and for some in Tr the new freedom to design and plan the curriculum and to experiment seemed to have some positive incentive effects. In Harlem, teachers were reported to feel "more professional," and in Marion County, the new freedom created a sen of excitement among the staff.

One instance of negative rewards may have been the results of the Iowa Achievement Test Scores in Troy which showed a decline in the fall of 1968 and produced consternation among some parents. At the same time, of course, students were expressing their approval of the program because of the increased freedom and time it afforded for socializing. This illustrates the obvious point that rewards are not the same for everyone. Thus the successful innovation must provide consequences that are perceived as positive by teachers, students, *and* parents. If the latter are primarily focussed on the more traditional cognitive achievement goals of education, then the innovators must either provide evidence of the maintenance or enhancement of those performances or somehow change the views of parents, school board, and community on the basic priorities of education.

Energy

Several times in this summary, we have noted the central role played by single individuals who pressed for change. A major aspect of their performance could be summed up in one word, "energy." They persisted, they worked long hours, they invested themselves in a total sense. Furthermore, the most successful change agents inspired others with the same zeal. The stronges example of such leadership is the superintendent in the successful Harlem, Illinois, case, a man described as having "commitment with unlimited energy."

In Troy, we also sense this energy from the principal, himself, but far less from his superiors. Furthermore, the sustainment of high energy over time was very difficult at Troy. Indeed, it is probably very difficult in the long haul for any innovation which isn't new any more and from which the luster of great expectations has faded.

In Marion County, there are examples of great persistence by several persons including the outside university trainers. The middle school coordinator shows signs of great energy in-put in his promotional efforts and in developing the "UNIPACS," and his change team is described as very dedicated.

Synergy

Finally we come to the most complex factor, "synergy," by which we mean the orchestration of multiple efforts to produce effective implementation. Most case studies provide examples of uses of several different media by several parties to the innovation but such efforts are not always well coordinated. In all cases, for example, the types of print materials (guidelines, descriptions, etc.) were totally inadequate in the beginning. Furthermore, in both Milwaukee and Harlem, Illinois, it was noted that provision of support materials and supplies lagged behind the time users were ready for them; this lack of synchronization caused significant problems and frustrations. In Milwaukee it was concluded that increased lead time was required between approval of a project and its implementation on this account.

On the plus side, we find many instances of the effective use of group meetings together with materials to get new ideas across. In Troy, for example, the approach used to persuade teachers eventually included written materials, movies, department meetings on a regular basis, and visitations to other schools where flexible modular scheduling was in use. The results of these efforts appeared to be largely successful in creating a positive attitude in the large majority of teachers. Unfortunately, no such program of multiple inputs was designed for use with community, parents, or students, and the teacher training effort, itself, was abandoned after a year.

In the Marion County case, we also see good use of various media in a coordinated drive to build acceptance for the second pilot school and the 5 year master plan. The middle school coordinator conducted weekly meetings with all junior high school principals, arranged for visitations, and imported a national expert to visit each school. At the same time, school officials used radio, TV, newspapers, and mass meetings to report on the new Title III project which would assist in the implementation of the middle school concept at Howard School.

It is obviously difficult to document probable instances of synergy and even harder to assess their effects. In some ways, it is not something we can easily plan for but something that we infer will happen if we do other things. Most particularly, if opinion leaders inside the school and inside the community become both knowledgeable and enthusiastic, their proselytizing efforts will subsequently synergize with other publicity efforts by the schools such as newsletters, stories in the local papers, reports on the action of the school board, and feedback from students to their parents.

The HELP SCORES formula is not yet far enough developed for us to say which of these factors is most important or what combination is optimum. They are obviously not independent. For example, people who are *open* are more able to be *linked* and hence more likely to be *rewarded* by new ideas. *Linkage* should also lead to greater *empathy* and a greater understanding about what *rewards* are important.

It is also probable that optimum is not maximum for many of these factors. A great deal of *openness* is not good for everybody if there is no *structuring* and vice versa. Too many linkages may lead to input overload and confusion. Too much financial capacity may lead to waste and add-on features which hurt the program and confuse its objectives.

Nevertheless, with these limitations in mind, HELP SCORES may be a good shorthand way of explaining many of the phenomena that appear in these cases as barriers or facilitators of change, and thus may be helpful to would-be change agents of the future in making the innovation process more efficient, speedier, and more beneficial to all.

CHAPTER TWO

THE INDIVIDUALIZED INSTRUCTIONAL PROGRAM

A Case Study from
Harlem Consolidated School District, Illinois

[Case Study drafted by Juliet Miller.
Assisted by Rita Mintz.]

BACKGROUND AND METHODOLOGY

The following case study is the product of a two day visit by two interviewers from the University of Michigan in November, 1972, to the Harlem Consolidated School District, Illinois, to collect data on the Individualized Instruction Program. Although the school district is currently involved in several innovative programs, including a middle school affective education program, the case study was limited to this one innovation in conformance with the procedure established for all case studies. With the permission and full cooperation of members of the Harlem Consolidated School District, the interviewers proceeded to elicit information about the process involved in the adoption of the program using the interview schedules developed for the case study project.

CASE STUDY

Harlem Consolidated Schools
District #122

Rockford, Illinois

I. THE INNOVATION

A. OVERVIEW OF THE INDIVIDUALIZED INSTRUCTION PROGRAM

In the Spring of 1969, a new Superintendent was hired for the school district. In October of 1969, he proposed an educational program to the Board of Education. A core element of his educational program was the adoption of individualized instruction in all classrooms of the seven elementary schools of the district. "Individualized instruction" was defined as a method of teaching where the teacher diagnoses the learning needs of her students in each subject area and determines the type of instructional grouping, content and materials which are needed by each individual. The Board of Education approved the total educational program and approved a discretionary fund for the 1969-70 school year which could be used by the Superintendent to initiate implementation of the program.

B. RATIONALE FOR THE PROGRAM

Prior to the arrival of the Superintendent, the district had been very traditionally oriented. Elementary teachers were required to move at the same pace using the same instructional materials for all students in a particular grade level. The new Superintendent provided an entirely new educational emphasis for the district. He indicated that his two educational priorities were the following. First, students should develop positive self concepts as a result of the school experience. In his own words, "Kids should be happy. They should like school." Secondly, throughout the school experience, each student should make continuous progress toward reaching his full potential. Individualized instruction was seen as an instructional innovation which could contribute to the achievement of these goals since it enables each student to be involved in successful, self-paced learning experiences.

C. PROGRAM ELEMENTS: COMPONENTS, PARTICIPANTS AND DECISION-MAKERS

The adoption of individualized instruction in the elementary schools of this district was a major change which included several components. The adoption process has to date taken three and one-half years. The two key decision-makers in this process were the Superintendent and the Assistant Superintendent for Instruction. These two men entered the system in 1969 and were granted powef by the Board of Education to implement the individualized instruction program.

The decision-makers felt that this change would require a considerable length of time (3-5 years). Since it represented a major change and involved all teachers and students in seven elementary schools, a number of steps were required before complete adoption was possible. The program components include: the use of team teaching, home visits with parents of each student, the development of learning materials centers in each school, the development and purchase of instructional materials for the individual classrooms, the use of paraprofessional aides in the classroom, the use of parent volunteers, the development of guidelines for teacher evaluation and extensive staff training.

The various program components were initiated in stages. The first year (1969-70) was devoted to teacher training, to the development of resources such as the learning materials centers, and to changes in the school plant. During the second year (1970-71), teachers were required to initiate team teaching, experiment with individualized instruction and make home visitations. During the third year (1971-72), the use of paraprofessionals was initiated and guidelines for teacher evaluation were developed. The fourth year (1972-73) is the first year that teachers will be evaluated using the degree of individualization of instruction as a criterion. In effect, teachers have been given three and one-half years to adopt the total innovation. Starting in November of 1972, teachers will be evaluated and must meet the minimum requirement of 70% individualization of all learning activities. The present feeling of administration is that 99% of the teachers are already at this level of adoption.

D. CONSEQUENCES

The adoption of the individualized instruction program has had major consequences for both teachers and students. In effect, both of these groups are considered user groups since ultimately the program affects students, but also it has had impact on the teachers' skills, attitudes and behaviors. The consequences can be summarized as follows.

For students:

1) Development of greater self-confidence.
2) Development of increased self-guidance in learning activities.
3) Increased happiness with school and with themselves.
4) Educational achievement, as measured by standardized achievement tests, is at least equal to that under the previous educational approach.
5) Increased willingness to cooperate with and help classmates.

For teachers:

1) Increased sharing of ideas with other teachers.
2) Willingness to ask for help from other teachers and from administrators.
3) Increased trust in students and in colleagues.
4) Increased confidence in themselves as teachers.
5) Increased quality of instruction (greater variety of instructional techniques being used).
6) Increased professional pride ("I feel like a professional").
7) Greater utilization of resources (training, instructional materials, and consultation).
8) Greater commitment of time ("Teachers are here until 6:00").
9) More faith in the potential of students.
10) Greater understanding of student needs.

II. DEMOGRAPHIC INFORMATION

The Harlem Community School District #122 is located about 75 miles northwest of Chicago, Illinois. It is located just north of the town of Rockford. Basically, it is a consolidated district which includes areas of Harlem Township; the people living within the school district do not identify strongly with any particular town. The Assistant Superintendent for Elementary Education indicated that it is difficult to gain support for the school when the school area population does not have a strong sense of community. The total population of the school area is 35,000.

The area is quite industrialized. Rockford's major industry is tool and die making. The parents of school children are employed primarily in the various industries in skilled, semi-skilled and unskilled occupations. Socio-economically, it is a lower class and lower middle-class population. The average family income is $7500 per year. Many of the parents have emigrated from the southern United States to seek employment in this area. The majority of the population is white, with minority groups accounting for only about 2% of the school population.

The school district has a student population of 9200 students. These students are distributed as follows: 4400 elementary, 2200 middle school and 2600 high school. The students are average in ability, with a system mean on national achievement tests around the 50th percentile. Of the graduating high school seniors, 30% attend four year colleges, 8% attend two-year community colleges, 2% attend non-degree technical-vocational schools, 2% attend other post-high school training institutions and 52% do not continue their formal education.

At present, the system is supported by expenditure of $735.00 per student per year, slightly below the national average in our sample of $785.39 for representative districts under 80,000 pupils. The district did pass a bond issue in 1970. The community will provide financial support for basic educational programs but gives little support for the initiation of new programs. Since 1969, the district has actively sought supplemental outside funding. In these three years there have been five special projects supported by state and federal funding.

In summary, the Harlem Consolidated School District is a relatively small district. It is located in a community where education is not a particularly high value. In general, parents are not highly concerned or involved in their children's education. It is a lower middle-class community with average ability students. While the financial base is adequate, it is not high enough to support major new educational programs without outside assistance.

III. THE INNOVATION PROCESS: HOW THE INDIVIDUALIZED INSTRUCTION PROGRAM CAME TO BE ADOPTED

The adoption process for the individualized instruction program required about three and one-half years. This length of time was very much in line with the Superintendent's prediction of three to five years. Since this innovation has many components and because of the length of time required for total adoption, it is helpful to trace the process year by year, from 1969 to 1972.

A. THE SYSTEM BEFORE THE INNOVATION WAS INTRODUCED

The major force behind adoption of the innovation was the Superintendent. He assumed his position in the Fall of 1969. However, to understand the total change process, it is important to understand the nature of the system prior to his entrance. Several of the people interviewed supported the following picture of the previous administration. The major emphasis prior to 1969 was on operating the school system in the black. School funds were used primarily for developing physical facilities rather than for strengthening the educational program. Before the Spring of 1969, the system was not levying full taxes. This financial situation is of major importance. At one point the system was threatened with sanction by the Illinois Education Association for refusal to use school funds for educational purposes.

This administration held a very traditional view of education. The criteria for good education was, "quiet children sitting in straight rows." Teachers were required to use identical materials and were to move at the same pace. Several teachers indicated that the Central Office would survey teachers to determine the exact page they were on in their textbooks. If a teacher was ahead of other classes, she would be asked to slow down.

If a teacher was behind, she would be asked to speed up. Experimentation and innovation were literally forbidden; if continued efforts were made in this direction, it would constitute grounds for dismissal. Several principals supported this perception, indicating that some innovations were "bootlegged" but always with the fear that the Central Office would discover it.

In general, then, prior to the arrival of the current Superintendent, there was more emphasis on physical facilities than on instruction; no deviation in terms of instruction was allowed; there was a threat of state level sanctions; and there was a threat of a teachers' strike.

B. THE FIRST YEAR: 1969-1970

When the Superintendent arrived in the Fall of 1969, the system was in a state of "pain". The Board of Education recognized a need for change and was willing to give the Superintendent the power to implement the new educational program which he had discussed with them prior to his hiring. The teachers had reached a high level of dissatisfaction. They knew something was wrong with the system but did not know what to do about it. The Superintendent indicated that he felt he should do something quickly because of teacher dissatisfaction. The teachers wanted something to happen but were afraid to try and did not know what to try.

The first step taken by the Superintendent was to present his total educational program to the Board of Education, formally. They approved his program and also granted his request for a $100,000 discretionary fund to be used to initiate the program. After this, the Superintendent saw his major role as selling the program to the teachers and the community. In the Fall of 1969, he arranged for the Board of Education to visit a school in Chicago which was using individualized instruction.

He employed several procedures to communicate the nature of the proposed program to the community. He met with every PTA group to communicate about the program. Also, he wrote a monthly newspaper column, met with a group of local bartenders, visited shopping centers on Saturdays and was on local television. He indicated that he tried every way he could think of to "sell" the community on the idea. Some were effective while others were not. However, from these efforts he felt that he developed a small group of parents and community members who became program advocates.

The second major group with which he worked was the teachers. The Superintendent communicated that teachers would not be required to change during the first year but by the second year they must team teach by grade level. A number of training procedures were used to help the teachers understand the concept of individualized instruction. Teachers had one in-service training day per month devoted to the concept, they took field trips to visit other schools, they discussed the idea informally with the Superintendent and they had the opportunity to take a course in team teaching provided by Northern Illinois University. By the end of the year, several teachers felt that they understood and could accept the basic philosophy behind individualized instruction. However, they were still anxious about what they would do in the actual teaching situation.

A final emphasis during the first year was the development of resources within each school building which were essential to the individualized program. Considerable restructuring of the actual buildings was done, such as tearing out walls to enlarge the classroom areas. Also, each elementary school developed a learning materials center.

C. THE SECOND YEAR: 1970-1971

The second year teachers started team teaching by grade level. This was required. Most of the teachers did try although a few left the system either to take jobs in other systems or to retire early. Teachers interviewed indicated that the change was difficult but several factors made it possible. One key factor was the fact that they were given freedom to experiment with various techniques. The Superintendent attempted to develop a climate in which mistakes were allowable and in which teachers felt secure enough to ask for help and to share ideas with each other. The teachers indicated that at first they did not trust this climate but through testing of Principals and the Superintendent, they gradually came to believe that it was, in fact, safe to experiment.

Another key factor in teacher acceptance of the innovation was the fact that resources were made available to them. Teachers were encouraged to submit proposals describing instructional approaches which they wanted to try and requesting materials needed for the projects. In most cases, they got exactly what they requested. If not, they were always told why it was not possible to get the materials. Building principals were, for the first time, given funds which they could spend as they and their teachers determined.

Also, the teachers continued to receive consultative help and in-servic training. The total district administrative staff followed the Superintendent's lead and became resources to the teachers. They suggested ideas, supported teachers, and accepted failures as a normal aspect of innovation. Also, in-service training continued. Increasingly, teachers within the system were used as resources. If a teacher developed an exciting approach, she would share it with others during in-service days. This sharing culminated in a materials development workshop held at the end of the second year. This was a two week workshop in which teachers suggested and shared ideas about instructional materials, and actually developed materials for use the following year.

Also during the second year, teachers were required to make home visitations. They made appointments and visited the parents of each of the children in their classes. The goal of the visitations was to communicate about the new individualized program and to answer parents' questions about it. At first, teachers resisted this idea but in retrospect many teachers indicated that it was most satisfying, because they got to know parents and because parents saw them as "human beings."

During this second year, teachers at last began to try individualized instructional approaches. At this point reactions were varied. Some teachers were very excited while others felt that the approach was difficult and too time consuming. Throughout this year, a few teachers became strong advocates of the approach. They were reinforced by the administration and in turn became influence leaders with the teachers. The administration has continued to support these peer leaders and has drawn heavily on them throughout the adoption process.

D. THE THIRD YEAR: 1971-72

The third year, teachers were encouraged to continue increasing the amount of individualization they were using. During this year, the innovation was accepted and implemented by more staff. The Curriculum Facilitator indicated that by the second semester of the third year about 75% of the schools were making real progress toward individualized instruction.

A major step during this year was the introduction of paraprofessional aides in the elementary school. It was felt that these aides would be beneficial in facilitating greater individualization. The system received a grant from the state under the Teacher Aide Training program to implement the use of paraprofessionals. In addition to making paraprofessionals available, college courses were held for both the teachers and the paraprofessionals. The teachers were able to receive three college credits and the aides ten credits.

As progress toward individualization continued, the teachers felt that they needed guidelines. They did not know whether their instructional procedures were really individualized. As the Curriculum Facilitator indicated, "They were doing it, but they didn't know they were." In response to the need for guidelines, the Superintendent and the Curriculum Facilitator in cooperation with teachers developed the "Instructional Guidelines." (Appendix C) These were disseminated to teachers. The Superintendent attached the following memo.

> These documents are guidelines. They are, for the present time, to be used as a diagnostic tool by each faculty member. I do not suggest that teacher evaluations be made from the guidelines this year. I must add that they are to be used as evaluative instruments during the next school year. Some of you may argue that individualized instruction won't work for all teachers and students. I must restate my belief that individualized instruction is better for the students; and, therefore, individualized instruction is a must." (Jan. 18, 1972)

By the end of the third year, the majority of the teachers indicated that they were feeling more comfortable with use of the innovation. Several teachers indicated that the following things were happening: teachers felt more professional because they were given the opportunity to learn new approaches; there was increased sharing of ideas among teachers, principals and administration; and there was increased willingness to commit time and energy to the program. Many of the staff interviewed indicated that the Superintendent became a role model because he had unlimited energy and devoted long hours to making the program work. This permeated all levels of the system. For example, in one elementary school the custodian built fifteen moveable room dividers which could be used to section off small learning areas. He did this on his own time without extra pay.

E. THE FOURTH YEAR: 1972-73

Several people in the system, the Superintendent and the Assistant Superintendent for Elementary Education, indicated that the fourth year is being used to stabilize the adoption of the individualized instruction program. The Board of Education, the parents, and the teachers feel that they need time to "catch their breath."

From observation, it appears that individualized instruction is now being used in all classrooms in the seven elementary schools. There are limited exceptions to this (3 or 4 classrooms). These exceptions are either because a particular group of students has emotional problems which make it difficult for them to deal with the freedom or because a few speciality teachers, e.g. art, have been reassigned into regular classrooms. Starting in November of 1972, the guidelines developed in the 1971-72 school year will be used to evaluate teachers. Using these guidelines as the criteria, teachers must have individualized at least 70% of their classroom learning activities. Most people do not feel threatened by this since they are already operating at this level.

At present, the teachers seem comfortable with individualized instruction. They are no longer questioning the idea but seem committed to it as an instructional approach. Their main concern is to continue to develop individualized procedures and materials to meet the needs of their students. The administration seems quite satisfied with the progress of the elementary schools. They are now concerned with facilitating the adoption of individualized instruction at the upper grade levels. The students and staff seem happy with the innovation. The main concern is continued communication and support from the community. The Superintendent is holding "coffee clatches" in which he talks with small groups of parents to seek their involvement in the program. Lack of parent involvement seems to be disappointing to the administration: while some parents are very excited about the program and even volunteering time to it, a number of parents remain largely apathetic about the schools and their particular academic program.

IV. MELDING PRACTICE AND THEORY IN THE INNOVATION

A. WHAT MODEL OF CHANGE?

The model of change used to adopt this innovation can be analyzed in terms of the problem solving change model. This model includes the following stages: (1) establish need for change: (2) form change relationship; (3) clarify the problem: (4) identify alternatives; (5) transform intentions into change efforts; and (6) stabilize the change.

All members of the system agree that the Superintendent was the change agent. Upon entering the system in 1969, he felt that the teachers already felt the need for change. His perception was that he had a mandate for change and should move quickly. The teachers support the perception that they felt a need for change. Some were considering leaving the system and in general they were dissatisfied. Little specific effort was directed toward establishing the need for change since both the staff and the Superintendent already recognized the need and agreed that it was present.

The formation of a change relationship was difficult in this situation. The Superintendent was an internal change agent who held a position of power. Also, he had just entered the system and during the first year was seen as an "outsider." Several steps were taken to form the relationship. First, the Superintendent defined his role clearly. This role included that of key decision-maker, role model for teacher behavior, and linker to outside resources. He first exercised his power by specifying the general direction of change, that is, individualized instruction. In this decision, he was authoritarian. He, in effect, said, "Kids are first in this school system. They should be happy with school, and individualized instruction is the most effective way to make them happy." He gave an ultimatium, "Teachers will individualize or they will be fired." The initial reaction was resistance and fear on the part of the teachers. If decision-making had been the only element of his role, he would not have been an effective change agent. However, he also established group norms which included openness of communication, sharing of ideas, encouragement of risk-taking and experimentation, trust in each other as competent professionals, and freedom to fail. Several people indicated that these norms were crucial to the change process. The Superintendent not only verbalized these norms but became a role model for the group by behaving in accordance with the norms. So while the basic decision to use individualized instruction was an authoritarian decision, the relationship among staff was a very open, supportive one.

Once the basic decision regarding the innovation had been made, the Superintendent very accurately diagnosed the problems within the system which made adoption difficult. Key elements which he recognized and helped to solve included: change was not acceptable under the old administration so he would have to give teachers time to believe that change was now acceptable; resources were lacking both in terms of instructional materials and physical plant; and, most important, teachers did not understand the innovation and its implications for their own instructional behavior. Although the Superintendent seemed to sense the problem accuratel and did take steps to overcome obstacles, it is not clear whether the teache at first, realized how clearly he understood. Some of the initial resistanc to the innovation hinged on the teachers' perceptions that they were being required to change without the administration realizing how difficult that change would be for them. In time, however, the teachers came to feel that the administration did understand their problems and was willing to respond to them.

The Superintendent was very strong in the area of helping the staff identify alternatives. Although the use of individualized instruction was mandated, choice of which specific instructional procedures would be used was entirely the decision of the team of teachers involved in each particular classroom. In effect, teachers were told what the change would be, but they were not told how it would be implemented. The Superintendent placed major emphasis on his role as a knowledge linker. The Staff went on visitations to other systems which were using individualized instruction; they had in-service training; they were encouraged to share practices with one another; and they were offered special graduate level courses. The total administrative staff saw its role as one of knowledge linking. The basic theory is that the administrative staff should develop strong teachers through training and consultation, and then trust them to make their own decisions about the instructional program.

To help teachers transfer their intentions into actual changes in the instructional program, three main approaches were used. First, the Superintendent mandated the change. Teachers had to team teach and individualize or be fired. However, they were given time to change. The program has been in operation three and one-half years and teacher evaluation is just now being based on the degree of individualization. Secondly, the Superintendent provided the resources needed to implement the program including physical facilities, materials, supplementary funding and learning centers. Finally, the administrative staff developed guidelines which would specify the nature of the change. These guidelines helped teachers determine the extent to which they were individualizing.

The final step in the change process is stabilization. The system has just reached this stage so it is difficult to determine how stable the innovation is. However, the innovation has been adopted by all elementary schools involving 4400 students and 170 teachers. People within the system feel that the change has some degree of permanence. The Superintendent feels that if he leaves the system, the teachers will still individualize or at least maintain a student oriented approach. Teachers indicated that if another administration forced them to return to more traditional approaches, they would strike. Also, although the staff is strongly attached to the Superintendent, they feel that the program would continue if he were to leave.

B. THE COMMUNICATION PROCESS: FOUR MAJOR ELEMENTS

In his Planning for Innovation (1969), Havelock makes use of Laswell's (1946) formula for communication: "Who says what to whom by what channel to what effect." From this formula, he derives four major elements of the communication process:

1) resources persons and systems - senders, disseminators (who)
2) user persons and systems - consumers, clients (to whom)
3) message - knowledge innovation (what)
4) medium - channel, strategy, tactics (how).

These four elements can be used when analyzing planned change or dissemination events. It seems important to review briefly these four elements as they are reflected in the innovation under study, the INDIVIDUALIZED INSTRUCTION PROGRAM.

Resources Persons and Systems (Who): The innovation, individualized instruction, had been well developed and implemented in a number of schools prior to its introduction to this school system. The Superintendent and the Assistant Superintendent for Instruction had come from a system which had already adopted the innovation. They, therefore, played a major role in facilitating the use of both external and internal resources systems. Externally, the resources included: the use of external funding such as ESEA Title III; visitations to other schools which had adopted the innovation; contacts with professional colleagues outside the school system; and the use of universities for in-service training. Internal resources included: in-service training; use of media centers; use of supervisory personnel as consultants; and continuous sharing of ideas among teachers.

User Persons and Systems (To Whom): There were really three user groups, including: parents and community, teachers, and students. Technically, the teachers were the major users since adoption had the greatest impact on their behavior. However, students and parents were beneficiaries of the effects of the innovation. The innovation was adopted by 170 elementary school teachers with its effect having an impact on 4400 students. At present all teachers have adopted the innovation: however, a few teachers chose not to adopt by leaving the system.

Message (What): The message was the initiation of an individualized instruction program in all seven elementary schools in the system. The message had several components including: home visits with the parents of each student; the use of team teaching; the development of learning materials centers in each school; the development and purchase of instructional materials for the individual classrooms; the use of paraprofessional aides in the classroom; the use of parent volunteers; the development of guidelines for teacher evaluation; and extensive staff training. The innovator (Superintendent) presented these components to the users (**teachers**) over a period of three years.

Medium (How): The resource system used several different methods for presenting the message to the users. Two distinct user groups were recognized. First, media used to communicate the innovation to the community included: S perintendent visits with every PTA group; home visitations by teachers; coffee clatches with the Superintendent for interested community members; use of television; on-going use of the local newspapers; use of a community advisory council; and face-to-face meeting in the community setting, e.g. shopping centers. Second, the media used to communicate with teachers included: visitations to other schools; in-service training; administrative open door policy where teachers always have priority; consultation with teachers by advisory staff; and reimbursement for outside graduate level study.

C. AN ANALYSIS OF CHANGE ROLES

The following individuals and groups played key roles in the adoption of the individualized instruction program.

1) Board of Education - The Board played a major role as catalyst. It did this by hiring the Superintendent, recognizing the need for change, allocating funds for the program and granting power to the Superintendent to implement the program. The Board supported the change but, at least initially, had little commitment to the specific innovation which was adopted.

2) Superintendent - Every individual interviewed agreed that the Superintendent was "the key change figure." If he had not entered the system, the change would not have occurred. His success as a change agent seems largely due to his ability to play several key change roles. He was a consultant, trainer, formal leader, opinion leader and linker during the change process. He recognized the need for change, defined the change, made resources available and became a role model for open, experimental behavior. In effect, he successfully combined several change roles. If any one had been missing, adoption might not have occurred.

3) Assistant Superintendent for Instruction - This individual was present in the system during the early adoption stages. He had previously worked with the Superintendent and was familiar with the innovation. He played a key role in training the teachers in individualized techniques and in linking them with external resources.

4) Teacher Opinion Leaders - Two teachers in one of the elementary schools emerged as opinion leaders. The administration in turn drew heavily on these individuals. They, therefore, played vital change roles. Their roles included being opinion leaders who gained support for the change from teachers; being consultants who helped the administration understand and solve adoption problems; and being linkers who helped establish a norm of idea sharing among teachers. The Superintendent credits these two opinion leaders with major responsibility for the success of the program.

5) District Administrative Personnel - There are a number of key administrative personnel such as consultants for Curriculum, Reading and Elementary Education who played major change roles. It is

interesting that many of these people entered the system after the change had been initiated, and they stated that they came because they saw the system as an exciting place to be. These people are in contact with teachers and function in both a consultant and linker role.

6) Teachers - The Superintendent identified the teachers as a key change group. The teachers were the innovators. The majority of them have adopted the innovation. Those who did not have left the system. An interesting point is that age of the teacher has had little impact on their acceptance of the innovation. Many teachers who have been in the system for many years have completely changed their teaching style.

7) Community Advisory Group - The Superintendent formed a Community Advisory Group with representatives from community organizations and members at large. This group is really constituted of opinion leaders who have been helpful in communicating the nature of the innovation to parents and other community members.

D. AN ANALYSIS OF DISSEMINATION AND UTILIZATION FACTORS

In Planning for Innovation (1969) Havelock presents seven unifying themes or factors that generally account for most dissemination and utilization phenomena: linkage, structure, openness, capacity, reward, proximity and synergy. Recently, he has added three other factors; homophily, energy, and empathy. These ten factors can be distributed over the four major communication process elements (resource system, user system, message, and medium). The following describes the nature of these ten factors in the adoption of the individualized instruction program.

HOMOPHILY

The key change agent (Superintendent) and the users (teachers) initally were not very similar. The teachers indicated that they were distrustful of him at first, and saw him as an outsider. However, he built strongly on two similarities. First, he stressed that they were both professional educators and treated teachers with respect. Secondly, he built on a common value of wanting to help students. Through stressing these two elements, both the change agent and the users feel that they are now very similar.

Similarity among teachers was used as a major strategy in the adoption of the program. Teachers within buildings now refer to themselves as a "family", with teachers in other buildings being their "cousins". The similarity was emphasized through the requirement of team teaching and an on-going sharing of ideas.

A final comparison is between the school personnel and the community. Here there is still considerable dissimilarity. The school personnel feel that while some of the community members understand the innovation, many are disinterested because of their low value of education.

EMPATHY

The change agent was very responsive to the feelings of the users. He indicated that prior to his coming, the district was "run by fear". He, therefore, has worked very hard to establish certain norms. First, he absolutely demanded experimentation with the right to make mistakes without punishment. Teachers in time were able to believe this norm and see it as crucial to the change process. Secondly, he established a norm of honesty. Teachers feel that they are always told the truth. For example, if a request is denied, the reason is always given. Another important norm was to emphasize strength rather than weakness. One individual indicated that the Superintendent often set almost impossible goals, but he also acknowledged that they were difficult and communicated a faith in the teachers' ability to meet the goals. Finally, the Superintendent recognized that change requires time. He set small steps in the change process to reduce the teachers feelings of frustration.

Teachers have followed the norms set by the Superintendent when interacting with each other. They are very willing to share ideas and to accept and give suggestions to each other. They are not afraid to admit to failure.

LINKAGE

The change agent is seen as a linker by the user group, "He is expert. He knows." Several of the administrative staff indicated that linkage is a major part of their role. The goal is to train expert teachers and then give them freedom. To implement this goal, the central office has successfully linked teachers to outside sources of information and also has encouraged internal linkage. External linkage has included visitations, speakers, demonstrations, workshops, and graduate study. Internal linkage has included teacher to teacher demonstrations and workshops for idea sharing. The linkage has been very strong. Most teachers feel that they are "competent professionals" because they have been exposed to so many outside ideas. One teacher indicated that they are now able to evaluate the usefulness of resources for themselves.

Another type of linkage has been between the school and the community. The Superintendent realized that he was introducing a new idea and felt strongly about helping the community understand the idea. Linkage activities have included home visitations by teachers and individual and group presentations by the Superintendent.

PROXIMITY

Proximity was another key change factor. The Superintendent and other administrative staff made a point of being available to the teachers. Administrative staff indicated that there was an unwritten law that they never break an appointment with a teacher. In general, the resource system was available. The Superintendent often visits the schools. The small size of the district is helpful here since administrative staff can get to the schools. Throughout the visitation, the resource staff was often seen in classrooms consult with teachers. Also, the school system is close to universit resources (Rockford College and Northern Illinois University) Use of these resources has supported in-service training.

The inclusion of team teaching in the individualized program has greatly increased the proximity of teachers. Teachers must team teach by grade level. This means that the teams work and plan together on an on-going basis. Also, the principals meet with each team once a week to share ideas and insure program continuity. The teaming idea has been crucial to adoption.

STRUCTURE

A basic structure, designed by the change agent, facilitated the implementation of the innovation. The Superintendent indicated that the structure was not as well developed prior to adoption as he would have liked it to be. However, several elements of structure were observed. First, there was clear role definition. The Superintendent outlined the basic change. This was an authoritarian decision but he saw his responsibility as providing basic direction. Once the basic decision was made, the administrative staff became consultants, linkers and trainers for the teachers.

Both teachers and principals agree that the structure gives freedom to each building to develop the individualized instruction program as the building staff determines. The principals play a coordinating role in which they obtain resources and insure grade level continuity. The teachers work in teams and design learning activities by grade level. A crucial element of structure is the freedom of each building to have its own budget and to determine which learning materials will be purchased.

Two other elements of structure were important. First, guidelines were developed which would help teachers evaluate their own instructional procedures. These guidelines provide a definition of the innovation. Secondly, the implementation process was completed in several stages. The Superintendent introduced new elements each year and expected the total adoption process to require from three to five years.

CAPACITY

The capacity of the system is really quite low. Prior to the entrance of the change agent it was very low because money was not being allocated for educational programs, but rather for buildings. The change agent used several strategies to increase the capacity of the system. First, he set a very high level of performance for existing staff. One staff member quoted him as saying , "You'll work harder than you ever have in your life, but you'll enjoy it more." He then became a role model by being highly committed in terms of time and energy. At present, all school personnel are spending considerable time and energy. A second strategy was to get committment of internal funds to the innovation. The first year, the Board of Education committed $100,000 to the development of learning centers to support the program. In general, use of local funds has been focused on the innovation. Finally, the system has actively sought external funding. In three years, it has had five externally funded programs. These programs have provided direct support to the implementation process.

The teachers have worked to increase capacity. Since they have direct power in determining how educational funds will be spent, they have become very interested in using these funds effectively. They have worked to develop many of the materials they use in the classroom rather than always relying on commercially produced materials.

A final factor related to capacity is the selection of new staff. The district has become known as an innovative system. For this reason, a large number of people are applying for employment within the system. This means that the system is able to select highly able staff who can work compatibly within the new program.

OPENNESS

Openness is a major norm which has been established by the Superintendent. The system seems to be free of bureaucratic obstacles. If a teacher wants to talk to the Superintendent or other administrative staff member, he has immediate access.

The use of team teaching has facilitated openness. Since teachers are working together within the same classroom, it is impossible not to be open. They are continually discussing new ideas and observing each other's performance. This sharing of ideas goes on within classrooms, buildings and between buildings. Teachers often demonstrate techniques to each other and hold workshops to share practices.

A final influence on the openness of the system is the norm of encouraging risk taking. One teacher indicated that, "The fear is gone." Teachers feel that they can try ideas and if they work, fine; if not, then they try something else. This freedom to experiment and fail encourages idea sharing.

REWARD

There are several rewards which are operating to encourage the adoption of the individualized instruction program. The major one relates to student outcomes. The program stresses the importance of students enjoying school. The innovation seems to produce happy kids, an outcome which becomes reinforcing to the teacher. A second reward relates to professionalism. Teachers are trusted and allowed to develop their own instructional techniques. They, "feel like professionals." This positive feeling about themselves as teachers is reinforcing.

The Superintendent is the mediator between the teacher and the Board in negotiations. He has been effective in gaining benefits for teachers. For example, teachers receive 90% tuition reimbursement for graduate level study. His position in negotiations has allowed him to provide additional rewards to teachers.

Finally, there is a negative sanction operating. Basically, teachers were given no choice about whether they would adopt the innovation: "Those teachers who do not individualize will be fired." This has provided motivation for teachers to try the innovation. Once they have tried it, other rewards have become more important.

ENERGY

The change agent was an energizer of the teachers. One teacher used the term, "We awoke." Implied by several teachers was the idea that they were ready to do something but were not allowed to move and did not know which way to move. The Superintendent assumed that this was the case. He trusted teachers as professionals to want to do something and to be willing to spend time and energy in doing it. Therefore, he set very high standards and then got resources to the teachers. They, in turn, devoted great amounts of time and energy to make the program successful.

A crucial element in the teachers' willingness to devote energy is the fact that the structure allows them to decide what will be done and to share credit for successes. This means that the results of energy investment are highly visible and highly rewarded.

SYNERGY

The change agent identified four key audiences which had to be "sold" on the innovation. From the first year of change efforts, he has worked with all four audiences. These four groups include the Board of Education, the community, teachers and parents. The first year he made major efforts to communicate with all of these groups. Rather than demanding change from them the first year, he worked continuously to sell the innovation as an idea. In doing this, he utilized numerous resources and used many methods of communication.

Later, he enlisted the help of teachers in working with the other three groups. Teachers made home visitations with parents, and early adoptors were used to communicate with other teachers. Also, teachers were given more freedom to select which outside resources would be used. They now specify the type of external resources which will be most helpful to them at their current stage of implementation.

"Selling the idea" has been a strong on-going emphasis. The Superintendent indicated that a high priority this year for him are the coffee clatches which he has with parents and community members to describe the program. All school staff indicate that they have adopted the program and are extremely pleased with it. However, they now feel a strong need to continue working with the community to seek its greater involvement in the operations of the schools.

APPENDIX A

A Comparison of Tables from the Mailed Questionnaire and Interview Schedule

INNOVATION PROCEDURES

	Mailed Questionnaire EMPHASIS					On-Site Questionnaire EMPHASIS					Mean of the two Questionna
In the introduction and installation of the innovation identified in Question 1, how much emphasis was given to each of the following?	Extre 5	Major 4	Mode 3	Slig 2	None 1	Extre 5	Major 4	Mode 3	Slig 2	None 1	
a. Systematic evaluation			X						X		2.5
b. Solid research base			X					X			3.0
c. Systematic planning		X						X			3.5
d. Adequate definition of objectives		X						X			3.5
e. Selecting a competent staff to implement change	X						X				4.5
f. Starting out with adequate financial resources to do the job		X							X		3.0
g. Utilizing a number of different media to get the new ideas across			X					X			3.0
h. Persistence by those who advocate the innovation	X					X					5.0
i. Maximizing chances of participation by many groups	X						X				4.5
j. Stressing self-help by the users of the innovation		X						X			3.5
k. Adequate diagnosis of the real educational need	X							X			4.0
l. Providing a climate conducive to sharing ideas	X					X					5.0
m. Providing a climate conducive to risk-taking	X					X					5.0
n. Creating awareness of the need for change	X						X				4.5
o. Creating an awareness of alternative solutions			X					X			3.0
p. Confrontation of differences		X						X			3.5
q. Resolution of interpersonal conflicts	X						X				4.5
r. Involvement of informal leaders of opinion inside the schools		X				X					4.5
s. Participation by key community leaders				X				X			2.5
t. Taking advantage of crisis situations		X					X				4.0
u. Finding shared values as a basis for working			X				X				3.5
Other procedures used [illegible]pecify):											

With innovation procedures, there are six areas which received high ratings: (1) selection of competent staff to implement change; (2) persistence by those who advocate the innovation; (3) providing a climate conducive to sharing ideas; (4) providing a climate conducive to risk-taking; (5) resolution of interpersonal conflict; and, (6) involvement of informal leaders of opinion inside the schools. These highly rated factors support the impression received during interviews with various staff members that high emphasis was placed on staff training and selection, on norms of idea sharing and risk taking, and on utilizing teachers as opinion leaders within the individual school buildings.

BARRIERS TO THIS INNOVATION

Superintendent's Perspective

'A number of circumstances are sometimes reported as "barriers" to innovation. In your experience with this innovation, how important was each of the following?	Mailed Questionnaire IMPORTANCE as a barrier					On-Site Questionnaire IMPORTANCE as a barrier					Mean of the two Questionnaires
	Extreme 5	Major 4	Moderate 3	Slight 2	None 1	Extreme 5	Major 4	Moderate 3	Slight 2	None 1	
a. Lack of adequate contacts with outside resource groups (e.g., universities, labs, consultants, etc.)				X					X		2.0
b. Lack of communication among the staff			X						X		2.5
c. Lack of communication between staff and students			X					X			2.0
d. Confusion among staff about the purpose of the innovation				X				X			2.5
e. Staff's lack of precise information about the innovation				X			X				3.0
f. Disorganization of the planning and implementation efforts					X				X		1.5
g. Unwillingness of resource groups to help us revise or adapt			X						X		2.5
h. Rigidity of school system structure and bureaucracy					X			X			2.0
i. Unwillingness of teachers and other school personnel to change or listen to new ideas			X						X		2.5
j. Shortage of funds allocated for the innovation				X					X		2.0
k. Shortage of qualified personnel			X					X			3.0
l. Feeling by teachers and staff that the innovation would have little benefit for them			X						X		2.5
m. Frustration and difficulty encountered by teachers and/or relevant staff in trying to adopt		X						X			3.5
n. Frustration and difficulty encountered by students during the adoption process				X					X		2.0
o. Lack of contact with other school systems who had considered the same innovation			X						X		2.5
p. Lack of coordination and teamwork within the school system			X						X		2.5
q. Absence of a concerted campaign to put the new ideas across					X				X		1.5
r. Inadequacy of school plant, facilities, equipment, or supplies			X					X			3.0
Other barriers (specify):											

In general, barriers were not perceived of being of extreme importance in the adoption of the innovation. There were, however, four barriers which were seen of moderate importance. These included: (1) staff's lack of precise information about the innovation; (2) shortage of qualified personnel; (3) frustration and difficulty encountered by teachers and/or relevant staff in trying to adopt; and (4) inadequacy of school plant, facilities, equipment, or supplies. Most of these barriers were reduced in time. They were seen as having greater influence during the early stages of the change process.

BARRIERS TO THIS INNOVATION

In addition to the responses of the Superintendent, two teachers who were key innovators and opinion leaders responded to the barriers both as they saw them initially and as they see them at the present time. These are presented to indicate the extent to which teachers have come to feel more comfortable with the innovation over the three and a half year adoption period.

	Initially					Presently				
	IMPORTANCE as a barrier					IMPORTANCE as a barrier				
A number of circumstances are sometimes reported as "barriers" to innovation. In your experience with this innovation, how important was each of the following?	Extreme 5	Major 4	Moderate 3	Slight 2	None 1	Extreme 5	Major 4	Moderate 3	Slight 2	None 1
a. Lack of adequate contacts with outside resource groups (e.g., universities, labs, consultants, etc.)			X						X	
b. Lack of communication among the staff			X						X	
c. Lack of communication between staff and students				X					X	
d. Confusion among staff about the purpose of the innovation			X							X
e. Staff's lack of precise information about the innovation			X						X	
f. Disorganization of the planning and implementation efforts			X						X	
g. Unwillingness of resource groups to help us revise or adapt				X						X
h. Rigidity of school system structure and bureaucracy			X						X	
i. Unwillingness of teachers and other school personnel to change or listen to new ideas				X						X
j. Shortage of funds allocated for the innovation			X						X	
k. Shortage of qualified personnel			X						X	
l. Feeling by teachers and staff that the innovation would have little benefit for them			X						X	
m. Frustration and difficulty encountered by teachers and/or relevant staff in trying to adopt				X						X
n. Frustration and difficulty encountered by students during the adoption process				X					X	
o. Lack of contact with other school systems who had considered the same innovation			X						X	
p. Lack of coordination and teamwork within the school system			X						X	
q. Absence of a concerted campaign to put the new ideas across				X						X
r. Inadequacy of school plant, facilities, equipment, or supplies				X					X	
Other barriers (specify):										

A number of circumstances are sometimes reported as "barriers" to innovation. In your experience with this innovation, how important was each of the following?	Initially IMPORTANCE as a barrier					Presently IMPORTANCE as a barrier				
	Extreme 5	Major 4	Moderate 3	Slight 2	None 1	Extreme 5	Major 4	Moderate 3	Slight 2	None 1
a. Lack of adequate contacts with outside resource groups (e.g., universities, labs, consultants, etc.)				X					X	
b. Lack of communication among the staff		X							X	
c. Lack of communication between staff and students				X					X	
d. Confusion among staff about the purpose of the innovation		X							X	
e. Staff's lack of precise information about the innovation		X								
f. Disorganization of the planning and implementation efforts		X							X	
g. Unwillingness of resource groups to help us revise or adapt				X					X	
h. Rigidity of school system structure and bureaucracy				X					X	
i. Unwillingness of teachers and other school personnel to change or listen to new ideas			X						X	
j. Shortage of funds allocated for the innovation				X				X		
k. Shortage of qualified personnel			X							
l. Feeling by teachers and staff that the innovation would have little benefit for them			X						X	
m. Frustration and difficulty encountered by teachers and/or relevant staff in trying to adopt		X							X	
n. Frustration and difficulty encountered by students during the adoption process			X						X	
o. Lack of contact with other school systems who had considered the same innovation				X					X	
p. Lack of coordination and teamwork within the school system			X						X	
q. Absence of a concerted campaign to put the new ideas across					X					X
r. Inadequacy of school plant, facilities, equipment, or supplies	X							X		
Other barriers (specify):										

USE OF RESOURCES

Mailed Questionnaire

INTERNAL RESOURCES		FREQUENCY OF USE IF AVAILABLE				
	(0) Not Available	(5) Very Freq.	(4) Frequently	(3) Occasionally	(2) Very Infreq.	(1) Never
a. Research and Evaluation Office or Staff					X	
b. In-Service Training Program		X				
c. Library Facilities		X				
d. Media Specialists or Centers		X				
e. Curriculum Supervisors		X				
f. Teacher Discussions & Idea Presentations		X				
g. Student Discussions & Idea Presentations					X	
h. Other (specify)						

EXTERNAL RESOURCES		FREQUENCY OF USE AVAILABLE				
	(0) Not Available	(5) Very Freq.	(4) Frequently	(3) Occasionally	(2) Very Infreq.	
i. ERIC				X		
j. USOE Supported Regional Educational Laboratories				X		
k. ESEA Title I Projects or Services				X		
l. ESEA Title III Projects or Services			X			
m. Other Federally Funded Programs and Services				X		
n. State Education Agency Services			X			
o. Foundations and Other Private Programs						X
p. Universities and Colleges				X		
q. Professional Associations					X	
r. Other (specify)						

On-Site Questionnaire

INTERNAL RESOURCES		FREQUENCY OF USE IF AVAILABLE				
	(0) Not Available	(5) Very Freq.	(4) Frequently	(3) Occasionally	(2) Very Infreq.	(1) Never
a. Research and Evaluation Office or Staff	X					
b. In-Service Training Program			X			
c. Library Facilities			X			
d. Media Specialists or Centers		X				
e. Curriculum Supervisors		X				
f. Teacher Discussions & Idea Presentations			X			
g. Student Discussions & Idea Presentations				X		
h. Other (specify)						

EXTERNAL RESOURCES		FREQUENCY OF USE AVAILABLE			
	(0) Not Available	(5) Very Freq.	(4) Frequently	(3) Occasionally	(2) Very Infreq.
i. ERIC				X	
j. USOE Supported Regional Educational Laboratories					X
k. ESEA Title I Projects or Services				X	
l. ESEA Title III Projects or Services			X		
m. Other Federally Funded Programs and Services				X	
n. State Education Agency Services					X
o. Foundations and Other Private Programs	X				
p. Universities and Colleges					X
q. Professional Associations				X	
r. Other (specify)					

Internal resources were used to a great extent during the adoption of the innovation. In fact, a major part of the change process was to increase and strengthen these internal resources. The major resource which was not used greatly was research and evaluation. This is because the school system does not have regular staff in this area. External resources were not used as much as internal resources. In general, these resources were utilized occasionally for training and for supplementary funding.

KEY PERSONS	Age	Ethnic Group	Socio-Econ.	Attitude to this Innovation	Attitude to Innovations in General	Basis of Motivation	Educational Values	Frequency of contacts with			Other Not Worthy Cha acteristi
								Students	Inside Resources	Outside Resources	
1. Superintendent	40	W	M	[✓ +] N -	[✓ +] N -	Past experience with innovation	Student Self-Concept Happy Students	High	High	High	Can Motivate Others
2. Asst. Super./Instru.	36	W	M	[✓ +] N -	[✓ +] N -	Past experience with innovation	Make learning easy for students	Medium	High	High	Linker to Outside
3. Curriculum Facilitator	35	W	M	[✓ +] N -	+ [✓ N] -	Mandate from Administration	Motivate students to learn	High	High	Medium	Opinion Leader
4. Teacher	27	W	M	[✓ +] N -	+ [✓ N] -	Felt dissatisfied with existing prog.	Motivate students to learn	High	High	Medium	Opinion Leader
KEY GROUPS											
1. School Board				[✓ +] N -	[✓ +] N -	Dissatisfaction with existing program	Improve skill level	Medium	High	Medium	
2. Teachers				[✓ +] N -	[✓ +] N -	Dissatisfaction with existing program	Motivate students to learn	High	High	Medium	

APPENDIX B

Superintendent's Recommendations for Future Change Efforts

During the interview with the Superintendent, several strategies for future change efforts emerged. Based on the experience of the school district during the adoption process, he suggested that the following changes would be considered in future innovation attempts:

1. Systematic Planning - He suggested that he and his staff had not planned each step of the change process prior to adoption. In the future, he would request time to plan the innovation process including the development of specific goals and steps needed to reach the goals.

2. Research and Evaluation - At present, the school system has little data to support the effectiveness of the Individualized Instruction Program other than subjective data from the staff. In the future, he suggested that staff time and funds be appropriated for the development, collection, and interpretation of statistical measures of change.

3. School Board Committment of Funds - Although the School Board did commit some money to the program, greater support for the innovation was needed. The Superintendent felt that in future change efforts, he would request greater financial support from the School Board. Particularly, he emphasized the need for released time for teacher travel to visit other schools and to attend professional meetings.

4. Initial Pilot Program - The Individualized Instruction Program was adopted simultaneously in all seven elementary schools. This was really forced adoption. The Superintendent did not intend for this to happen but felt that the community and the School Board wanted complete change. In the future, he would recommend that one to two elementary schools volunteer to pilot the program.

5. Community Support and Involvement - The community felt the need for educational change because of dissatisfaction with high school graduates' educational level. However, they were not involved in developing the exact nature of the new educational program. In the future, the Superintendent felt that the community should be more involved in defining the nature of educational programs. The district has been attempting to encourage this involvement but has had difficulty getting community members to actually participate.

6. Increased Built-In Rewards - A final change strategy would be to increase the rewards to teachers for program participation. At present, most rewards are intrinsic, e.g., child's response, freedom to experiment, satisfaction with work. The Superintendent suggested that in the future he would have more concrete rewards for teacher involvement such as additional pay for teachers who participate in innovation programs.

APPENDIX C

Guidelines for Individualized Instruction

HARLEM CONSOLIDATED SCHOOLS
District #122

TO: Elementary Principals and Faculty Members
FROM: Jack Wilt, Ed. D., Superintendent of Schools
DATE: January 18, 1972

INSTRUCTIONAL GUIDELINES

These documents are guidelines. They are, for the present time, to be used as a diagnostic tool by each faculty member.

I do not suggest that teacher evaluations be made from the guidelines this year. I must add that they are to be used as evaluative instruments during the next school year.

Some of you may argue that individualized instruction won't work for all teachers and students. I must restate my belief that individualized instruction is better for the students; and, therefore, individualized instruction is a must!

Please remember that these guidelines are to be used in helping you, as principals and teachers, diagnose your progress toward individualized instruction.

JW/db

TEAM PLANNING CHECKLIST

The key to the effectiveness of any teaching team is the quality of the planning sessions which underlie their teaching efforts. The following checklist may be useful in assesing a team planning session. An agenda, either formally prepared or outlined by the team leader, may be helpful in focusing the dialogue to the problems or considerations which the team must discuss. The following of the agenda and the allocation of appropriate amounts of time for discussion of items are the responsibility of the team leader.

Planning sessions will include a wide variety of topics. The following list is not inclusive, but indicative of that range.

Do your planning sessions include the following:

yes	no	
○	○	1. Discussions of grouping of students?
○	○	2. Are groups flexible?
○	○	3. How often are children shifted from one group to another?
○	○	4. How are these moves determined?
○	○	5. Discussion of organizational patterns which will be most effective for teaching the concepts desired?
		In any given week would an observer see the following:
○	○	6. Large group instruction?
○	○	7. Small group instruction?
○	○	8. Independent student activities?
○	○	9. Student seminar groups?
○	○	10. Individual or group project work based on current instruction?

yes	no	
○	○	11. Is evaluation an ongoing process?
○	○	12. Do planning sessions include a critique of previous team planned lessons, how it worked, how it could be improved?
○	○	13. Is any feedback from students concerning the lesson obtained?
○	○	Is it obtained formally?
○	○	Is it obtained informally?
○	○	Is it obtained by teacher observation?
○	○	14. Does the team evaluate the progress, or lack of progress, of individual students or groups of students?
○	○	15. Is each student assessed on a regular basis?
○	○	16. Are effective methods of working with children who are constantly disruptive, or those who seem to have special emotional or social problems, discussed by the team?
○	○	17. Are both long range and "next week" type plans discussed?
○	○	18. Are particular responsibilities assigned or assumed by the team members?
		Are plans made for:
○	○	19. The strategy to be used to teach a lesson?
○	○	20. Coordination for use of materials and equipment?
○	○	21. Student follow-up activities?
		Do all members of the team come to the planning session ready to:
○	○	22. Contribute ideas for furthering team success?
○	○	23. Share with other team members, both successes and failures with students, to assist in the professional growth of the team members to possibly find assistance in dealing with idiosyncrasies of individual students?

yes	no	
○	○	24. Keep in mind that the concept that "what is best for kids" rather than "what is easiest", "what is most efficient" or "what is my pet way of dealing with students."
○	○	25. Share the work load?
○	○	26. Do team planning sessions include discussions of both formal and informal diagnostic data gathered by teachers?
○	○	27. Are all records kept of the progress of individual students?
○	○	28. Where are they kept?
○	○	29. Is this data readily available to all team members?
○	○	30. Is diagnostic data gathered in terms of behavioral objectives established by teams for the unit of instruction?
		31. How does the team deal with conflict management?

ORGANIZATIONAL PATTERNS FOR TEAM TEACHING

In answer to several requests from teachers, the following description of organizational patterns for team teaching which are acceptable to Central Office Administration:

UNIT APPROACH

Salient Features:

1. Organized around a general theme.
   - A. Community helpers.
   - B. Ecology (formerly conservation).
   - C. Political campaigns.
2. All subject areas taught in reference to general theme.
3. All teachers teach in each discipline.
4. Resource person assigned responsibility for organization of materials in each of four major content areas.
5. Team leader coordinates all activities.
6. Content lines tend to become blurred.

Cautions:

1. Check constantly that skill development is continued.

COOPERATIVE PLAN-TEACH APPROACH

Salient Features:

1. All teachers are involved in planning goals and strategies in each discipline.
2. All teachers teach in each discipline.
3. Students move readily from group to group as many levels are taught simultaneously.
4. One teacher may take responsibility in one content area for location and acquisition of appropriate films, local resource people, etc.
5. The team leader coordinates all activities.

Cautions:

1. Planning in all content areas may prove arduous.

DEPARTMENTALIZED APPROACH

Salient Freature:

1. Provides students with teachers who are working in an area of strength or interest.
2. More instructional resources can be concentrated in one instructional space. (formerly classroom)
3. Each teacher both plans and executes the instructional program in a content area.
4. Team leader coordinates all activities.

Cautions:

1. The possibility of the "schedule" becoming dominant exists.
2. Content area lines may be too rigidly drawn.

UNIT APPROACH

In this organizational plan, all instruction is, for a given period of time, organized around one central theme. For example, if a theme "Your Home Town" were selected, the community of Loves Park or North Park would be given close attention. Math could deal with distances between home and school, etc. The social studies classes could study the history of the community. In spelling, words which are oriented to the community, each child might learn to spell the name of the street on which his home and school are located. Science classes could investigate the use of science processes which are used in community businesses. In this organizational pattern, all teachers would be involved in teaching students in each of the various disciplines. Grouping of students would be heterogenous, with the possible exception of the non-contiguous homogenous pattern established for the reading program. In this organizational plan the lines between content areas of necessity become quite blurred in this instructional pattern. The only caution appropriate is that teams constantly check to make sure that basic skill development is not ignored or forgotten.

In the unit approach to team teaching, each team member takes responsibility for the organization and coordination of the activities in a general content area. Thus, one teacher would organize the material available concerning the community, another prepare the math dittos, games, etc., still another correlate the science activities in terms of the community. Thus, while there is a social studies coordinator or resource person on the team, each team member will be involved in teaching social studies to students.

DEPARTMENTALIZED APPROACH

A departmentalized approach is another organizational pattern which can be effective organizing teams in the elementary school, particularly in the upper grades. In this organizational pattern, one teacher is responsible for the organization and teaching of the material in a specific content area. Thus, we have a math teacher, a science teacher, a social studies teacher, and a language arts teacher, the typical four team. This organizational pattern has the advantage of allowing more instructional and resource materials to be concentrated in one instructional space. It carries with it the possibility that the "schedule" can come to dominate instruction and that content lines can become too rigid.

The key to the success of this approach is effective team planning. The planning sessions should bring about coordination of subject. Each team member should be cognizant at all times to what is going on in each of the academic areas. This type of organization utilizes the strengths and training of teachers in content areas.

COOPERATIVE PLAN-TEACH APPROACH

A third organizational pattern is one which we have dubbed a cooperative plan-teach organizational pattern. This method of teaming involves all teachers in the planning of educational goals and strategies for teaching in all of the content areas. Each teacher will teach in each content area. It is suggested that all of the math classes be scheduled at the same time, so that within the heterogeneous groups as children make progress, they can move into another group which may be working at a higher level; or, if necessary, the child is falling behind he might possibly move to a group who is working at a lower level of achievement. In this organizational pattern the team leader plays a very important role. Since all teachers will be planning in all areas, there is the greater possibility of differences in opinion concerning the content which should be taught or the method by which it should be taught. In this pattern case the team leader and the principal will have to be involved to resolve differences of opinion as to how material should be approached. This organizational pattern has the distinct advantage that all teachers are of necessity, completely aware of exactly each teacher is doing in each content area, thus facilitating regrouping of students to the instructional area where they can receive the instruction which is appropriate to their individual needs. Efforts should be made so that each teacher meets with all the children assigned to the team.

TEAM TEACHING CHECKLIST

The following list of questions may help you to analyze your team teaching efforts. All questions will not apply in some situations due to the organizational pattern established by the team.

○ ○ 1. Is the team organizational pattern either described in writing or by a combination of writing and diagrams?

In the course of a typical week would an observer see students working in the following situations:

○ ○ 2. Large group instruction?

○ ○ 3. Small group instruction? (With teacher)

○ ○ 4. Small group activity? (Without direct teacher instruction.)

○ ○ 5. Independent activities? (Either student selected or teacher prescribed.)

○ ○ 6. Do students meet with each team member each day?

○ ○ 7. Are precise reinforcement activities scheduled for students following the teaching of a concept?

○ ○ 8. Is any attempt made to match the personalities of students and teachers?

○ ○ 9. Are students evaluated on the basis of information from all team members?

○ ○ 10. Are all team members aware of the instructional goals of the other team members?

Is there evidence of correlation between the following:

○ ○ 11. Math and Science?

○ ○ 12. Language Arts and Social Studies?

○ ○ 13. Art and Social Studies?

○ ○ 14. Music and Social Studies?

○ ○ 15. Spelling and all other disciplines?

○ ○ 16. Does the team execute the plans made in team planning session?

○ ○ 17. Is there evidence that children are viewed by team members as "ours" rather than "yours" and "mine"?

○ ○ 18. Are groups flexible?

○ ○ 19. Are placements of students in groups reviewed weekly?

○ ○ 20. Do team members receive feedback concerning their professional performance from other team members?

○ ○ 21. Do they ask for it?

○ ○ 22. Do team members share the work load willingly?

○ ○ 23. Does the team evaluate its oun effectiveness?

24. How are personality conflicts resolved?

25. How are conflicts in educational policy or practice resolved?

CLASSROOM INDIVIDUALIZATION CHECKLIST

I. Is the physical arrangement conducive to individualizing?

A. Desk arrangement

____ yes ____ no 1. Small groups

____ yes ____ no 2. Circle

____ yes ____ no 3. Traditional

4. Other

B. Are Learning Stations in use?

____ All of the time

____ Most of the time

____ Half of the time

____ Hardly ever

____ Not ever

C. If Learning Stations are used, please check yes or no.

____ yes ____ no 1. Require few written directions

____ yes ____ no 2. Are manipulative and concrete

____ yes ____ no 3. Are self-correcting or require no specific answer or response

____ yes ____ no 4. Motivate the child to explore, investigate, and manipulate

____ yes ____ no 5. Are curriculum related

____ yes ____ no 6. Are easy for children to obtain, use, and put away

____ yes ____ no 7. Enrichment activities are included

____ yes ____ no 8. Remedial activities are included

____ yes ____ no 9. Both activities are included

II. Instruction of Students

A. How much instructional time is spent in the following groupings?

	All of the time	Much of the time (over 50%)	Some of the time	Hardly ever	None of the time
1. Small groups (3 - 9)					
2. One-to-One					
3. Paired learning					
4. Large group (over 10)					
5. Self-instruction					
6. Other					

B. Is your Para-Professional utilized in the following areas?

____ yes ____ no 1. Oral discussion

____ yes ____ no 2. Supervision of seatwork

____ yes ____ no 3. Educational games

____ yes ____ no 4. Tutorial situations

____ yes ____ no 5. Activities and attitude which would help build a child's self-concept

III. Materials for Instruction

A. How much of your students' work is done in the following materials?

	All of the time	Much of the time (over 50%)	Some of the time	Hardly ever	None of the time
1. Learning station					
2. Teacher-made materials					
3. Programmed materials					
4. Audio/Visual materials					
5. Text book					
6. Supplementary materials					
7. Other					

IV. Learning Activities of Students

A. How much of your students' time is spent in the following areas?

	All of the time	Most of the time (over 50%)	Some of the time	Hardly ever	None the ti
1. Independent study					
2. Learning station					
3. Learning center					
4. Working with Para-Professionals					
5. Teacher-directed activities					
6. Other					

V. Evaluation of Students

A. How often do you use these types of recordkeeping?

	All of the time	Most of the time (over 50%)	Some of the time	Hardly ever	None the t
1. Letter grades					
2. Comments					
3. Numerical					
4. Other					

B. Do you employ these methods of evaluation?

_____ yes _____ no 1. Teacher-pupil conferences

_____ yes _____ no 2. Self-evaluation

_____ yes _____ no 3. Student self-check

4. Other

VI. Psychological Environment

A. ____ yes ____ no Do you feel that you accept students' ideas both verbally and non-verbally?

B. How often do you practice the following?

	Much of the time	Some of the time	Hardly ever	Not at all
1. Verbal criticism of students				
2. Non-verbal criticism of students				
3. Use of praise and/or encouragement				

C. Assess the amount of time of teacher talk and student talk.

____ All teacher talk, no student talk

____ 90% teacher talk, 10% student talk

____ 75% teacher talk, 25% student talk

____ 50% teacher talk, 50% student talk

____ 25% teacher talk, 75% student talk

INDIVIDUALIZED CLASSROOM GUIDE

(These are not listed in order of priority.)

I. PHYSICAL ARRANGEMENT OF CLASSROOM

A. DESKS

1. Small groups--Desks arranged in clusters of two to five.
2. Circle--Desks arranged in a circle.
3. Traditional--Five rows, six in a row. (Possible, but arrangements one and two more readily lend themselves to individualization.)
4. Other

B. LEARNING STATIONS (Synonymous terms--Interest Centers, Activity Centers, Learning Labs). A classroom may have as many Learning Stations as space will allow. Materials and activities should:

1. Require few written directions.
2. Be manipulative and concrete.
3. Be self-correcting or require no specific answer or response.
4. Motivate the child to explore, investigate, and manipulate.
5. Be curriculum related.
6. Be easy for children to obtain, use, and put away.

A Learning Station is an interesting, worthwhile alternative to the repetitious seatwork that is so often given to students to keep them occupied while the teacher is meeting with other groups.

C. SUPPLY CENTER--Paper, pencils, glue, crayons, etc.

II. INSTRUCTION OF STUDENTS

A. SMALL GROUPS--Minimum of 50% of time (three to nine students).

B. ONE-TO-ONE--One teacher to one pupil.

C. PAIRED LEARNING

1. One pupil of higher ability sharing a learning experience with another pupil.
2. Two pupils of similar ability sharing a learning experience.

D. LARGE-GROUP INSTRUCTION--Ten or more pupils.

1. Showing a movie.
2. Organizing activities of the day.
3. Presenting a general idea of concept being taught.

E. INVOLVEMENT OF PARAPROFESSIONAL--Effective follow-up of teacher instruction.

1. Oral discussion.
2. Supervision of seatwork.
3. Educational games.
4. Tutorial situations.

F. SELF-INSTRUCTION--Child is allowed to discover on his own under the guidance of a teacher.

III. MATERIALS FOR INSTRUCTION

A. LEARNING STATION--(See definition above.)

B. TEACHER-MADE MATERIALS

C. PROGRAMMED MATERIALS--Designed to allow the student to proceed at his own rate through material that very gradually becomes more difficult. Because of this gradual progression and certain techniques of hinting and prompting, the child is almost always right and receives immediate reinforcement of his correct response. (Usually a purchased product.)

D. AUDIO-VISUAL MATERIALS--Mechanical teaching aids to enhance auditory and visual discrimination.

E. TEXT BOOK

F. SUPPLEMENTARY MATERIALS--Additional materials which enhance individualization.

IV. LEARNING ACTIVITIES OF STUDENTS

A. INDEPENDENT STUDY--Allowing the child to probe within a topical framework or into an area of his own choosing with guidance.

A child being exposed to independent study for the first time will require step-by-step guidance from the teacher. It might be well to suggest the topic and make sure the child has an understanding of what he is trying to do, what material will be needed, and where to find the materials.

As the child develops research skills in the activities described on the preceding page, he can later be allowed more freedom in the areas in which he wishes to study.

B. LEARNING STATION

C. LEARNING CENTER

D. WORKING WITH PARAPROFESSIONALS

E. TEACHER-DIRECTED ACTIVITIES

V. EVALUATION OF STUDENTS

A. TYPE OF RECORDKEEPING

1. Teacher Evaluation

a. Numerical

b. Letter grades

c. Comments

d. Recordkeeping techniques for individualized instruction

e. Other

B. TEACHER-PUPIL CONFERENCES

C. SELF-EVALUATION

D. STUDENT SELF-CHECK

VI. PSYCHOLOGICAL ENVIRONMENT OF THE CLASSROOM--Atmosphere, attitude of teacher, facial expressions, tone of voice, etc.

A. AMOUNT OF TEACHER TALK

B. AMOUNT OF STUDENT TALK

C. ACCEPTANCE OF STUDENTS' IDEAS VERBALLY AND NON-VERBALLY

D. VERBAL CRITICISM OF STUDENTS

E. NON-VERBAL CRITICISM OF STUDENTS

F. USE OF PRAISE AND/OR ENCOURAGEMENT

G. OTHER OBSERVATIONS

Teacher: ________________
School: ________________ Grade ____
Date: ________________
Evaluator: ________________

EVALUATION CRITERIA FOR READING CLASSES

anizing for Reading

		Yes	No	Comments
Does the teacher have children grouped?				
What kinds of groups does she have? a. Achievement levels based on test results b. Interest groups c. Special skills groups	a. b. c.			
Are groups static or flexible? How often are they changed? For what reasons?				
Do children engage in independent activities? a. Stations b. Drawing c. Dramatizing d. Seat work e. Games f. Story writing g. Use of Audio-Visual materials, manipulative materials.	a. b. c. d. e. f. g.			
Is free reading time provided? How much/often?				
Are materials, assignments, and content adjusted to individual needs as they become apparent thru observation, diagnosis, and conferences?				
Is there a variety of activities provided during a given period to sustain interest? a. Assigned reading b. Small group discussion c. Individual projects d. Skills seatwork e. Free reading f. Related games or puzzles g. Skill lessons etc.	a. b. c. d. e. f. g.			

evelopmental Reading Lessons

		Yes	No	Comments
Does the teacher provide background and build readiness for reading?				

		Yes	No	Comments
2. Is new vocabulary introduced and discussed before, during, and/or after reading?				
3. Are most students able to complete assigned reading in the time allowed?				
4. In a discussion, does the teacher ask a variety of kinds and levels of questions?				
a. Factual recall	a.			
b. Interpretation questions	b.			
c. Evaluation questions	c.			
d. Divergent (no right or wrong answers) questions	d.			
e. Opinion questions	e.			
5. Is oral reading done for specific purposes or is it "round robin"? Purposes may be:				
a. Prove a point	a.			
b. Justify an opinion	b.			
c. Mimic a character's expression	c.			
d. To entertain	d.			
e. To relate a specific incident	e.			
f. To develop oral expression	f.			
g. For teacher diagnosis	g.			
6. Are outside resources used in lessons?				
a. Pictures	a.			
b. Tape recordings	b.			
c. Records	c.			
d. Other books or stories	d.			
e. Filmstrips	e.			
f. Objects related to the selection	f.			
7. Are appropriate follow-up, review, or skill activities discussed and/or assigned? Follow up:				
a. Deeper study of a topic or theme	a.			
b. Related themes or topics	b.			
c. Completion of a related project	c.			
d. Use of knowledge in a related subject	d.			
e. Doing a report or summary	e.			
f. Completing individual records	f.			
Review:				
Skills Activities:				
Record Keeping				
1. Does the teacher record student interests? How?				
2. Are records kept on individual skill development? How?				

	Yes	No	Comments
Are records kept on materials used in groups and by individuals? How?			
Do students keep their own records of activities? How?			
Are records of conferences or observations kept for each student? How?			
erials			
Is a basal series used?			
Are texts used for skill development or only as a source of stories?			
Are other texts besides a single basal used for enrichment?			
Are teacher-made materials in use? If so, what teacher-made materials are there?			
Is there an adequate collection of library or trade books? (At least 100 books per room)			
List commercial materials such as games and puzzles available in the classroom.			
List Audio-Visual materials and equipment are used in instruction?			

	Yes	No	Comments
8. What student-made materials are utilized in instructional or recreational reading? List			
Skill Development Program			
1. Is a scope and sequence curriculum utilized where skills are listed by level and in a given order?			
2. Are diagnostic testing and teacher observation used as a basis for instruction? How?			
3. Is there balance to the reading curriculum? In other words, does the teacher incorporate several of the items listed below in her daily program?			
a. Word Recognition			
b. Comprehension			
c. Study Skills			
d. Rate			
e. Appreciation			
f. Vocabulary			
4. Is a variety of approach provided as needed?			
a. Language experience			
b. Basal			
c. Individually prescribed			
d. Independent study			
e. Programed materials etc.			
f. Other			

TERMINOLOGY LIST

Basal series - A set of books which are components used in developing skills in an orderly, sequential, and heirarchical arrangement usually consisting of pre-primer levels through intermediate levels, often with accompanying workbooks and related materials.

Comprehension - Understanding material read. Comprehension may be literal, interpretive, or critical.

Free reading - Unassigned reading done for recreation by the student.

Group - Several children brought together or classified for instruction on the basis of skills to be developed, interests, overall achievement level, etc.

Individually prescribed - Assigning reading materials and activities on basis of individual needs.

Language-experience - Method of teaching reading in which children dictate stories or sentences and teacher writes them for later reading. The child's own vocabulary is used. Based on theory that what one thinks about he can say, what he says can be written and what is written can be read.

Mimic - Reproduce actions, voice inflections or intonations, or gestures of someone else.

Rate - Speed of reading in relation to purpose and difficulty of material.

Readiness for reading - Applies here to procedures of building an interest in or purpose for reading a selection before reading it.

Recall - Remembering.

Scope and sequence - Organization, arrangement, or listing of skills from simple to complex within various skill categories.

Stations - Places within a classroom where materials for a specific activity are organized, housed, and displayed. Some kinds of stations are creative writing station, game station, A-V corner, etc.

Study skills - Common and specialized skills for studying academic materials. Location, selection and evaluation, organization, recall, directions, and rate are classes of study skills.

Word recognition - Using phonics, word structure, context clues, word configuration or sight vocabulary to read words.

Vocabulary - Understanding literal, special, and figurative meanings of words in specific contexts.

CHAPTER THREE

THE PROGRAM IMPROVEMENT PROPOSALS (PIP)

A Case Study from
Milwaukee, Wisconsin

[Case Study drafted by Cleo Shakespeare.
Assisted by Bonnie B. Ramirez and
R. Bruce Shaw.]

PREFACE

This case study is addressed to anyone who wishes to understand the process of planned change in an educational setting. I gratefully acknowledge the assistance and cooperation given by the Milwaukee public school system. Special gratitude is expressed to Dr. Richard P. Gousha, Superintendent, and Mr. Carl Thom, Administrative Coordinator of Categorically-Aided Programs. Without their support this study would not have been possible.

I. THE INNOVATION*

A. OVERVIEW OF THE PROGRAM IMPROVEMENT PROPOSALS

Program Improvement Proposals (PIP) was instituted on a pilot basis in the Milwaukee public schools in 1969. PIP offers both a sturcture and a process whereby experimentation can occur at any level of the school system. New ideas incorporating new practices, technology, and/or materials can be translated into action plans and tried out to ascertain their effectiveness in meeting identified needs.

An important aspect of this innovation is that the basis for program planning centers on the learning needs of the students, with goals, objectives, design, and evaluation procedures being derived from those needs. In addition to the focus on student needs, another central component of PIP is the involvement and utilization of resources both within and outside the school system. Wherever feasible, students, parents, and other concerned citizens join school personnel to plan together ways for improving the quality of learning. This process of collaborative participation may be said to yield two "products": (1) a heightened awareness of real student learning needs; and (2) approaches which demonstrate either a significant or insignificant impact upon meeting those needs.

A Central Office committee, chaired by the Administrative Coordinator for Categorically-Aided Programs, is responsible for reviewing proposals and establishing priorities before making recommendations to the Superintendent. The Superintendent, in turn, reviews the proposals before passing them on to the Board of School Directors, who make the funding decisions. An annual appropriation from local funds by the Board supports PIP projects. The period for which a PIP project may be funded ranges from one to four years.

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*Information for this section was obtained from personal interviews, and from written materials prepared by the system. Appendix A contains a list of the positions of the people interviewed.

B. RATIONALE

Spawned by the Superintendent's recognition that the curriculum should not become stagnant if it is to prepare students for a world of rapidly changing technologies, and a belief in the value of a "broken-front" approach to system change, PIP was launched in 1969. Specifically, PIP has been developed as a tool to: (1) assess present curricula with respect to specific learning needs; (2) discard outmoded programs; (3) introduce new knowledge and technology; and (4) identify alternative opportunities for student learning and development. According to resource persons within the school system, PIP is intended to promote decentralization by providing the means and structure for school personnel to collaborate with grassroots representatives in the search for and selection of new ways to enhance student learning. The ultimate aim of PIP is to provide the best possible educational opportunities and experiences for all children in the Milwaukee public school system.

C. PROGRAM ELEMENTS

The participants in the Program Improvement Proposals consist of the teachers, parents, and principals in the neighborhood schools which have submitted proposals and received funds for innovative activities. At the Central Office level, participants represent the Superintendent's office as well as various departments within the divisions of Curriculum and Instruction, Administrative and Pupil Personnel Services, Planning and Long-Range Development, and Personnel. In essence, every member of the school system staff interested in improving education through new programs is eligible to participate in PIP, as are parents and citizens. The users and recipients of PIP are the personnel and students in schools which receive funds for experimentation with new materials, equipment, and/or teaching methods.

The criteria used by the PIP Central Office committee to develop a prioritized list of recommended proposals for funding include the following systemwide program thrusts as identified by the Administration:

1. Extend work experience programs.
2. Explore various teaching-learning designs to improve student achievement.
3. Accommodate students with special needs in regular classroom situations insofar as possible.
4. Explore year-round school.
5. Extend parent, community, student, and business sector participation in school undertakings.
6. Support experimental activities and projects to determine ways of improving educational experiences for students.
7. Study ways of improving services to students, e.g., guidance and counseling, psychological services, etc.
8. Combine reading resources in ways that will improve the reading achievement of students.

The PIP committee also ascertained whether the procedures prescribed for developing and submitting proposals had been followed, e.g., had the potential program implementers and parents been involved in the planning process? Another key factor in ranking proposals was determined by the relationship between student needs and the proposed learning outcomes. Consistency had to be present with respect to program objectives, staffing needs, equipment, materials, and budget. These aspects of the proposals were reviewed by the relevant departments in the Central Office.

Although choices were made successively by a number of Central Office departments in terms of specific aspects within proposals, the PIP committee had primary responsibility for deciding upon and rank ordering the proposals for the Superintendent. The Superintendent then made his decisions about the ranked proposals and presented them to the Board. In effect, the ultimate decision-maker for PIP is the Milwaukee Board of School Directors.

The consequences of the proposals were determined yearly through evaluations conducted by the school system's Department of Educational Research and Program Assessment. The objectives, as stated in the proposals, were used as the basis for measurements. Generally, evaluations have shown that students have experienced learning gains particularly, yet not exclusively, in mathematics, reading, and language development, as well as in technical skill areas. These changes were felt to have been influenced by improvements in teaching methods, competencies, services, and skills that resulted from in-service workshops and more effective course planning. Improvements in behavior, interest in school, and improved attendance on the part of students have been demonstrated as a result of an increase in counseling, social services, and recreational programs.

In summary, Program Improvement Proposals was launched to keep student learning relevant to a rapidly changing environment and to discover alternative learning vehicles to maximize student development. To facilitate these goals, the program improvement design created a new structure and process which served as a "broken-front" approach to change throughout the school system in that program planning could be initiated at the neighborhood school level.

II. DEMOGRAPHIC INFORMATION ABOUT MILWAUKEE*

Milwaukee, ranked as the 11th largest city and the 19th largest metropolitan area in the nation, has a population of 1.5 million. The city of Milwaukee covers almost 96 square miles; the county, 237 square miles; and the metropolitan area, nearly 1,500 square miles.

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*Information for this section was obtained from brochures prepared by the Milwaukee Chamber of Commerce, the Milwaukee Tourist Department, and the Milwau
public school system.

More than 23,000 metropolitan Milwaukee businesses provide employment opportunities for over 600,000 individuals in service, retail, manufacturing, wholesale, and construction firms. The county ranks sixth in industrial production. Although Milwaukee produces more beer than any other city, manufactured machinery is the area's largest industry. Milwaukee is a world leader in the production of gasoline, Diesel engines, and electrical apparatus; it is also a leader in the field of graphic arts. Additionally, its harbor on Lake Michigan connects the city via the St. Lawrence Seaway with the rest of the world and promotes a busy shipping industry.

Recreation and sports are heartily supported, and Milwaukee is the home of professional football, baseball, basketball, and hockey teams. The city's 108 parkways and numerous lakes make camping, fishing, and boating favorite leisure time activities. Milwaukee is also a city with impressive arts facilities. Its symphony and repertory teacher and opera company have outstanding reputations.

From its formal beginnings in 1846 until the present, Milwaukee has been described as a city where people make the difference. Early settlers were from Polish and German ancestry; since then Milwaukee has become a home for immigrants from all over the world, including native and Afro-Americans.

Citizens in Milwaukee are actively concerned about and involved in education; it has been reported that more than a quarter of the city's population is attending or working in the educational system. In the school system there are 160 public schools, with the following breakdown:

121 elementary schools
19 junior high schools
3 junior-senior high schools
12 senior high schools
1 orthopedic school
2 schools for the trainable retarded
2 language centers

The system employs 5,630 teachers for the 123,452 students. In addition, there are 94 private schools, including five vocational colleges and eleven institutions of higher learning. Among the most well-known schools are the University of Wisconsin at Milwaukee, the Milwaukee School of Engineering, and the Milwaukee Technical College.

III. THE INNOVATION PROCESS: HOW THE PROGRAM IMPROVEMENT PROPOSALS CAME TO BE ADOPTED*

A. HISTORICAL PERSPECTIVE

A perusal of records and news clippings from yesteryear coupled with a review of current writings all plainly show that the Milwaukee public schools have a longstanding history full of innovations and of keen citizen interest in and support for public education. Interviews held with both "old-timers" and "newcomers" reinforce this fact. For example, in its 127 year history, a school bond referendum never has been defeated, nor have schools ever been forced to operate on split-day sessions or to employ non-certified personnel as teachers. Likewise, in curriculum modification, the Milwaukee system ranked among the leaders until the late 1950's when the relatively stable and homogeneous student population began changing rapidly.

In keeping with this demonstrated pattern of community support, the decision made in 1963 by the Board of School Directors to study the attitudes, opinions, and problems perceived by teachers in the central city schools was readily accepted. The central city was selected because it had the highest degree of intra-mobility and was the area where the influx of ethnic minorities had settled. Seven members of the Board were selected to serve on a special Committee on Equality of Educational Opportunity. To provide an understanding of the school system's position, excerpts from the Committee's final report are offered.

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*Information for this section was obtained through interviews with members of the Milwaukee Board of School Directors, the Superintendent and other Centra Office personnel, and from a review of materials written for and by the system.

> "Intelligent people with a passion for justice are aware of many special problems in educating children of culturally deprived or disadvantaged families living in Milwaukee's central city area..."
>
> "An understanding of the needs of these boys and girls, as well as an understanding of the men and women who teach them, is vital in the important role of teacher communication with the Milwaukee Board of School Directors..."
>
> "...know the reality of the educational situation in central city schools by communicating with the teachers in these schools..."

Based on the conviction that communication with teachers was an important component of the Board's long-established duty of evaluating the effects of its policies and gaining insights for new policies, an anonymous questionnaire was distributed in late December, 1963 to 1052 teachers in central city schools. By January 24, 1964, 582 (56%) of the teachers had responded to the survey, and independent researchers were commissioned to prepare a report based on those responses.

During this same time period (1963-1965), external events were occurring that affected the Milwaukee school system. Prior to the release of the special committee's report, the school system was openly attacked on the basis of the number of failures in its educational system. The problem that confronted the system was one of developing and implementing programs which would provide educational success for children who had primarily experienced educational failure. Based on the special committee's report of November, 1965, the Milwaukee Board of School Directors passed a Declaration of Public Policy in support of massive compensatory education at the neighborhood school level.

Also during this time, Congress passed two major education acts: the Economic Opportunity Act of 1964, and the Elementary and Secondary Education Act of 1965. The climate seemed ripe for major changes in both techniques and approaches practiced since the 1950's, and hopes were high as federal funds were released to develop new curricula and services. In the period between 1965-1967, over 80 different projects directed toward meeting the special needs of students were in operation in the Milwaukee public schools. A significant proportion of these projects were aimed at secondary schools and were supported locally. Unfortunately, the high hopes for great outcomes were dashed by the federally required year-end evaluations which consistently showed that "no significant impact" had resulted from the projects.

Perhaps under similar circumstances other systems might have concluded that a reversal of the failure syndrome was impossible. However, the position of the Milwaukee school personnel was to question whether efforts were being focused on the right problems. They believed that clear clues about unlocking the learning processes among disadvantaged children could surface only after systemwide problems had been pinpointed. This self-inquiry led the Board of Directors in early 1966 to appoint a Citizen's Advisory Committee to survey school needs. The committee retained the services of the Academy for Educational Development of New York, which in turn appointed a panel of six nationally-renowned experts to conduct the study. At about the same time in 1966, the Superintendent announced his intention to resign. It was hoped that the information provided to decision-makers about system needs and requirements would prove useful in determining the essential qualifications for a new superintendent.

In the course of this sweeping study, policies, finances, future buildings, pupil/staff profiles, and linkages between city educational systems, the community, and units of government were all scrutinized. Briefly stated, the Academy report of August, 1967, indicated that the school system was generally not serving student needs well, regardless of the students' socio-economic, ethnic, or cultural backgrounds. The recommendations set forth in the final document called upon the educational community to rededicate its shared concern and to concentrate on a future-focused orientation. New emphases were placed upon learning how to learn, making and maintaining rewarding human ties, and making successive choices. These recommendations were presented by the Academy to its employer, the Citizen's Advisory Committee to the Board of School Directors, in the form of a report entitled, "Quality Education in Milwaukee's Future" (August, 1967). The Citizen's Committee shared the Academy findings at the September, 1967 school board meeting, and in late 1967, the Board appointed a special Academy Study Committee charged with the task of examining the feasibility of implementing the proposed recommendations.

At the beginning of the 1967-1968 academic year, the former Delaware State Superintendent assumed his new tasks as superintendent of the Milwaukee school system. Gathering information on the state-of-school affairs from reports and staff, and drawing upon his own knowledge and experience, he identified 25 key areas that needed attention. These areas formed the nucleus in planning the development of a systemwide organizational plan which would be designed to enhance education for all students.

The plan for progressive change that emerged consisted of three phases, each dealing with specific divisions and tasks. Phase One included organizing divisions and tasks for planning, long-range development, and personnel; Phase Two, with divisions and tasks for educational and recreational programs; and Phase Three, with divisions and tasks for communication and relationship building.*

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*The three phases of the systemwide change plan are discussed in Appendix B.

It was within this context of a blueprint for massive systemwide organizational change that the concept of Program Improvement Proposals (PIP) was formulated.

B. THE PROCESS OF PIP DEVELOPMENT

1. Idea Development (1968-1969)

Immediately following the passage of the organizational change plan by the Board of Directors in May of 1968, the Superintendent introduced his idea of PIP to the Superintendent's Council, composed of top managers in the school system. The idea was enthusiastically endorsed, mainly because it held the potential for implementing experientially the systemwide change plan.

During the Council meetings to plan PIP, discussions centered on how to translate the idea into a program that would be workable in a complex school system. Out of these deliberations emerged an image of individual classrooms and schools in which a variety of new equipment, materials, methods, and activities would be tried out under the leadership of teachers with new competencies. The council felt that in order to formulate innovative ideas, freedom from the constraints of traditional and fiscal resources was necessary. Thus, the Superintendent made it clear that all ideas were to be heard and that idea-bearers were to be encouraged to convert their ideas into proposals. In other words, thwarting ideas and passing premature judgment on them were considered intolerable. Similarly, budget restraints were not to be imposed in the development of new ideas.

With full support from the Council, the Superintendent presented the idea of PIP to the Milwaukee Board of School Directors at the August, 1968 meeting. The Board voiced their approval of the idea and agreed to consider ways in which to provide money to support new ideas. Two months later, in recognition of its endorsement of PIP, the Board earmarked a small amount of money from the school budget for the following year.

2. Planning Period

Rather than immediately catapulating PIP on a systemwide basis, the Superintendent's Council decided to conduct a trial run both to acquaint staff with the concept of PIP, and to try out and revise various procedures. A planning group of sixteen Central Office staff members (the Ad Hoc Committee) was formed to assist the Administrative Coordinator of Categorically-Aided Programs in his responsibility for moving a proposal from an idea to a viable operation.

One problem this committee recognized was the existing inequity between schools receiving federal funds for program innovations and schools which did not receive federal funds. Most of the new federal programs at that time were located in central city schools rather than in outer-city schools because of the former's eligibility for ESEA funds. In contrast, PIP placed considerable stress upon the importance of all student needs, irrespective of school location.

The Ad Hoc Committee was instrumental in identifying a potential role for Central Office staff in program development. They assisted in interpreting PIP to school personnel and in encouraging the submission of proposals from all levels within the school system. Committee members stressed that every idea, regardless of how farfetched, was to be considered so that creativity would not be short-circuited by premature evaluation. Similarly, the need for participation of parents and interested citizens in developing proposals was supported by the Committee.

School system personnel were invited to submit proposals for the funding of innovative programs. Each proposal was studied by every member of the Ad Hoc Committee. In the process of studying the proposals, committee members frequently consulted with Central Office specialists in areas such as costs and equipment. After all proposals had been thoroughly reviewed, the Ad Hoc Committee met to rank the proposals. Fully cognizant that Milwaukee school system students had generally slipped below national standards in reading and mathematics, the Committee accorded a clear preference for proposals in those areas.

At the September, 1969 Board of School Directors meeting, the Superintendent presented the list of recommended Program Improvement Proposals; three of the projects were approved by the Board. A fourth project was approved at the October meeting. Notices announcing the approved proposals were sent to the schools in late September and October. Personnel were advised of the possibility for grant renewal of the funded projects, and of the opportunity to revise and resubmit non-approved proposals. Moreover, new proposals were also encouraged.

3. Pilot Year (1969-1970)

The PIP pilot year began in September of 1969 with programs funded in both elementary and secondary schools. The innovations were largely confined to cognitively-rooted activities, such as a mathematical lab and two reading improvement programs. Student participants represented several socio-economic and cultural orientations as well as various levels of academic achievement.

Consequences

At the end of the pilot year (June, 1970), teachers, principals, and Central Office staff involved in the PIP projects were asked to assess student gains in learning and to provide feedback on the PIP process. In general, teachers, principals, and parents were unanimous in their praise for PIP. Although objective measures were comparatively underdeveloped, there was evidence of improvements in mathematics and reading skills among students. However, there were several problems noted concerning the PIP process. Some teachers experienced difficulty in writing proposals in the specified technical style as it represented a new skill for which they had not been trained. Also, an underestimation of the amount of time required for the entire cycle of proposal writing and review, plus the late arrival of new equipment and materials, resulted in delayed start-ups for many projects.

These reports were sent to the Administrative Coordinator of Categorically-Aided Programs where they were carefully reviewed before being sent to the members of the PIP Ad Hoc Committee. Subsequently, that Committee met to discuss the results of the pilot year, utilizing both the reports submitted and their own experiences as committee members. In addition to recommending that a set of written guidelines for PIP be prepared in light of misinterpretations that had resulted from verbal directions, the Committee concluded that on the basis of the pilot year evaluation reports, the PIP concept had adequately demonstrated its utility to the Milwaukee school system. The Administrative Coordinator then submitted his report on the pilot year to the Superintendent. In reporting to the Board of School Directors, the Superintendent recommended the expansion of PIP, and at the July, 1969 Board meeting, $1,371,781 was appropriated from local funds for the continuation and expansion of PIP to encompass the entire school system.

4. First Year (1970-1971)

Program Improvement Proposals (PIP) was launched on a systemwide basis in September, 1970. Proposals were to be submitted from within the school system through supervisors to the Deputy Superintendent's office. For example, the process would begin with a teacher submitting a proposal to his principal for review and endorsement. The principal, who in effect became the proposal submitter, would forward the proposal to the Administrative Coordinator. After recording and acknowledging receipt of the proposal, the Administrative Coordinator's office would route the proposal for review to all of the Administrative Department Directors. This process usually took about thirty days.

After the circulated proposals were returned to the Administrative Coordinator's office, the PIP Ad Hoc Committee met to prioritize the proposals.* Their recommended list was then forwarded through the Deputy Superintendent to the Superintendent, who recorded his comments before presenting the list to the Board of School Directors for funding. All personnel, including the Administrative Coordinator and the Ad Hoc Committee, performed these program-related tasks in addition to their regular functions within the school system.

The Board agreed to fund 47 projects of varying duration: 21 for one year, 23 for two-four years, and 3 projects as continuations from the pilot year. There was also some variation in the funding authorization dates, with projects being funded in the fall, winter, and spring.

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*Although the principles for proposal selection referred to in a previous section were used to develop priorities, criteria utilized remained somewhat implicit while PIP was undergoing systemwide implementation.

Of the 21 one-year projects, 20 originated from nine elementary and ten secondary schools. The remaining project was developed by Central Office curriculum specialists. The major area of emphasis in the one-year projects was academic skill acquisition. Of the 23 two-four projects, six were initiated by elementary schools, eight by secondary schools, and four by the Central Office Division of Curriculum and Instruction. Projects involving three clusters and two divisions of schools were also funded. In addition to students from 3-17 years of age and teachers, paraprofessionals and specialists in numerous resource areas participated in the first year PIP projects.

Consequences

Terminal evaluations of the 21 one-year projects and interim evaluations of the 23 two-four year projects were conducted by the Department of Educational Research and Program Assessment. Findings in terms of the percentage of stated objectives that had been met by the projects are shown in Table 1.

TABLE 1 Percentage of Stated Objectives Met

	0-39%	40-50%	60-70%	80% Plus
21 one-year projects*	6	7	2	4
23 two-four year projects**	4	3	5	9

*Two projects are not included as only one measure was available in one project and its outcome was uncertain, and objectives in one other project could not be measured.

**Two projects are not included as objectives in one project could not be measured, and one project failed to materialize.

In addition, written evaluations about the 47 projects funded in the 1970-1971 academic year contained the following statements:

> "Only stated project objectives were evaluated.
>
> Objectives were set by project personnel. The Department of Educational Research and Program Assessment assisted in the specification of objectives in measurable terms.
>
> The implementation of some projects was handicapped by delayed receipt of supplies, material and equipment.
>
> Failure by several projects to meet established objectives may have been caused by many factors including ineffective instructional processes, unrealistic performance expectations and inappropriate evaluative measures.
>
> In future budgeting a general application/cost effectiveness approach, through standardized budgeting of costs unique to the proposal, will facilitate decision-making, particularly among alternative programs or educational processes."

As a result of experiences derived from the pilot year (1969-1970) and the initial months of operation during the first year (1970-1971), structural changes were made in PIP not only to improve the process, but also to increase the quality of proposals submitted. A written set of guidelines was released from the Deputy Superintendent's office in February, 1971. This document, "A Design for Program Development," explains the purpose of program innovation, the process for proposal development, review, and priority designation, and authorization processes.* Roles, relationships, and linkages within various subsystems, and project managerial and operational aspects of the total process are described and interpreted in the guidelines. Also included in the document are copies of the appropriate forms to be utilized, the Central Office processing time schedule, and a list of the systemwide program thrusts or goals as identified by the Administration. However, the guidelines do not explain at what point funds are appropriated in relation to proposal development.

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*See Appendix C for the complete document.

By making explicit the process of proposal development and review, the Central Office staff hoped to increase the quality of the proposals submitted. The characteristics of a well-conceived, well-written proposal, as identified in the guidelines, describe a proposal which details pupil/school needs; program goals, objectives, design, and evaluation related to those needs; and staff and/or community involvement in proposal development.

Another consequence which grew out of the experiences of the first year relates to the PIP Ad Hoc Committee. With a PIP structure and process established and guidelines published, it was felt that the developmental tasks of the committee were finished and that a standing PIP Committee should be appointed to continue the procedures of interpreting, screening and ranking, and monitoring the overall PIP process. This recommendation was reinforced by the fact that more proposals were being submitted earlier, and that the level of quality had been raised to the desired level. In response to this recommendation, the Superintendent appointed a PIP Standing Committee to be chaired by the Administrative Coordinator of Categorically-Aided Programs, with a membership of six Central Office representatives.

A final consequence of the first year relates to the action taken by the Board of School Directors at the October, 1971 meeting to earmark

$1,371,781 of the 1972 budget for PIP. By the close of the 1970-1971 school year, 101 proposals had been submitted for projected operations during the 1971-1972 school year.

5. Second Year (1971-1972)

As the second year began, there was evidence to suggest that the PIP guidelines were being used effectively by personnel within the school system. Systemwide program thrusts identified by the Administration constituted one criterion for deciding on a proposal's priority by the PIP Committee.* Criteria used in internal reviews consisted of key questions to be answered by various Central Office departments concerning specific aspects of the proposals, e.g., a question for the Classified Personnel Department asked if the staff function was adequately defined. The questions were used by the Program Service Area Team Leade in working with Central Office staff on proposal preparation.

As a result of the distribution throughout the system of specific directions about the PIP process and the development of explicit instructions to direct the Central Office internal review process, there was an increase in both the number and quality of submitted proposals. Thus, PIP committee members experienced increasing difficulty in reaching consensus on proposal rankings. In addition, a limited budget allocation made it necessary for the PIP Committee to institute the practice of approving proposals with funding rank, approving proposals in principle when funds were exhausted, returning proposals to the submitter for modification, and rejecting proposals. Using this method, the committee prepared its prioritized list for the second year of PIP.

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*See page 113 of this report for a list of the eight program thrusts.

At the August, 1972 Milwaukee Board of School Directors meeting, the Superintendent presented his recommended list of Program Improvement Proposals. In the discussion which ensued, parents and staff presented persuasive statements in support of various proposals. With local funds limited, the Board decided to continue 27 projects which had been funded in the previous year, renew the grants for 11 projects, and refer the recommended list of new proposals and those needing modification to a Board committee for further deliberation. After the Board-appointed committee made its report at the September meeting, the Board authorized the funding of 28 new projects and three projects requiring modifications.*

Consequences

At the end of the second year, the Department of Educational Research and Program Assessment again conducted the PIP evaluations. There was an elaboration of assessment procedures in that objectives were divided into process and project categories. Process objectives related to the extent and effectiveness of implementation efforts (e.g., desired teacher behaviors); in contrast, product objectives referred to program outcomes (e.g., desired student behaviors).

The evaluation of 1971-1972 Program Improvement Proposals shows that despite both increased staff assistance in proposal development and the utilization of more precise evaluation tools, limitations were encountered. The lack of rigorous designs in the proposals continued to affect both the goal progression and the desired learning outcomes of the implemented proposals, and resulted in the inability of decision-makers to obtain definitive answers to the question, "Is this project more successful than another innovation or program trying to accomplish the same objectives?"

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*Appendix D contains examples of projects funded during the second year.

The process for PIP during the pilot and first two years of operation (1969-1972) was chiefly an internal exercise with relatively minor contributions from resources outside the school system. As a consequence of the 1971-1972 program assessments, evaluators in the Department of Educational Research and Program Assessment sensed a need for and a receptivity toward the inclusion of outside expertise. The evaluators believed that an inside/outside team of educators might have a greater likelihood of building in more precise indicators which would mirror true outcomes in student learning.

Included in other suggestions made by the evaluators was a refinement in the PIP process. Rather than beginning with an idea or plan, an assessment of needs ought to be the first consideration. In this way, discrepancies identified could give both purpose and direction to the formulation of objectives and to proposal construction. Another suggestion made related to the need to conduct a search of relevant sources within and outside the system in order to avoid the repetition of failures. Along with this suggestion was the need to incorporate a literature review into the PIP process.

Lastly, the 1971-1972 evaluations offered the following set of recommendations:

1. Develop programs that concentrate instruction on a small number of pupils in a well-defined content area.
2. Provide planning time necessary for the development of a rigorous project design. Provision should be made early for involvement of evaluation personnel.
3. Provide in-service training on project designs and proposal writing.

4. Increase the lead time between program approval and the initiation of the project in order to assure timely receipt of supplies and modification of resources.

A different type of consequence that resulted from the second year of PIP concerned including the Central Office Chief Negotiator in the proposal review process. This action was taken at the request of the Teacher's Union.

The Deputy Superintendent and the Administrative Coordinator believe that the refinements in procedures and processes in the field and in the Central Office have fostered increased efficiency and effectiveness in the resulting project outcomes. However, they also recognize the existence of several lingering dilemmas:

--Should a quota system be used in deciding which proposals to prioritize?

--Should only schools with particular needs be invited to submit proposals?

--Should Program Improvement Proposals be additive or substitutive?

--How can the innovative thrusts highlighted through PIP be institutionalized?

--How can program experimentation continue to be fostered given the existing economic picture?

--What should be the disposition of successful programs?

IV. MELDING PRACTICE AND THEORY IN THE INNOVATION

A. WHAT STRATEGY AND MODEL OF CHANGES?

In the preceding sections, an overview of the innovation, Program Improvement Proposals, has been given, accompanied by a presentation of the historical antecedents and resultant consequences. In this section, the focus will be upon an analysis of the main forces in this planned organizational change, particularly in relation to three general strategies for effecting changes in human systems. Afterward, an examination will be made of the methods or models utilized in promoting the overall goals inherent in the planning, direction, and management of the innovation.

Since reference has been made to PIP as the embodiment of a systemwide planned change, perhaps the concept of planned change should be clarified. In this case study, "planned change" refers to "a conscious, deliberate and collaborative effort to improve the operation of a human system, whether it be a self-system, social system or cultural system, through the utilization of scientific knowledge." (Lippitt, et al., 1958) Two other concepts that will be discussed also need to be defined: as used in this paper, strategy refers to the planning and directing of operations, while tactics refer to those activities which are designed to serve the strategy by achieving its directive.

Strategies for effecting changes in human systems have been grouped into the general categories of: empirical-rational, normative-re-educative, and power-coercive (Chin and Bennis, 1969). Under the empirical-rational strategy, men are presumed to be rational and will therefore be amendable to innovations and to their adoption once their efficacies have been demonstrated. The premise upon which the normative-re-educative strategy is based is that individuals are motivated by commitments to attitudes and value systems which constitute socio-cultural norms. Changes in attitudes, values, role relationships, practices, and actions occur, therefore, only as individuals develop commitments to new normative orientations. In the power-coercive strategy, there is compliance by those with lesser power to the plans, direction, and leadership of those with greater power. The base of power brought to bear may be legitimate or authorative.

As the Milwaukee public school record covers more than a century, it is necessary to set boundaries to this discussion. For this reason, only those activities which were an aftermath of the discovery that the Milwaukee central city environment was changing will be considered. This covers the period from the early 1960's on. After reviewing the activities during this period, especially the 1963 locally-conducted Attitudinal Survey and the 1967 Comprehensive Survey conducted by the New York based Academy, this writer maintains that the Board of School Directors followed an empirical-rational strategy in effecting changes in the Milwaukee public school system. Problem-solving, legitimate power, and a variety of other tactics were engaged in to facilitate success in this strategy.

In the 1963 survey, facts and information were desired which would pinpoint central city teachers' feelings, attitudes, and perceived problems. One successful approach used by the Board committee was to send letters to central city teachers inviting their participation in the (now) joint responsibility of maximizing scholastic achievement for all children. The letters were on the personal stationery of the committee chairman (rather than on official school letterhead paper), and anonymity for respondents was assured through the use of unsigned questionnaires. Although only 56% of those surveyed returned the questionnaires, neither sanction nor other punitive devices were directed toward the 449 who chose not to participate. In addition, a local group which was completely independent from the school system was commissioned to perform the analyses. Perhaps these tactics did have the desired impact of minimizing perceptions of administrative pressure.

However, it is possible that from the perspective of a teacher or even of a principal, the strategy and tactics used might have been construed as as power-coercive move. It is readily acknowledged that legitimate power by virtue of the Board's responsibility was present. Nevertheless, in view of the system's past "track record," its modus operandi, and demonstrated positive values intrinsic to the innovation, these glimmers of doubt should dissipate. As a result of the 1963 survey which firmly established that a need for change did in fact exist, the Board passed an equality in education policy and action-oriented directives. For these reasons, it is maintained that the Milwaukee Board of School Directors adopted an empirical-rational strategy.

Further examination of the school system's activities confirms that this type of strategy is employed repeatedly. For example, after evaluations in the mid 1960's revealed that the ESEA funded investments were not "paying off," the Board appointed a Citizen's Advisory Committee which approached the Academy for Educational Development, Inc. The Academy, a national educational research organization external to the school system, was contracted to perform a study of school system needs and requirements and to prepare recommendations based on that study. Through its use of qualitative and quantitative instruments, this group also employed an empirical-rational strategy. Most of the tactics engaged in by Academy personnel may best be described as externally built relations, enlarged participation, and feedback. The latter tactic involved reporting information about the state of educational functioning, and included Academy recommendations. It is posited that the Academy was successful in fulfilling its mission to the system because it relied upon the legitimate power delegated to it by the Board, and because it drew upon the power emanating from its experience and knowledge about educational systems.

This time, unlike similar occasions in the past, the Board relinquished the tasks attendant to recommendations and implications to one of its committees. The committee challenged the newly-installed Superintendent to provide more learning alternatives and updated methods, contents, and materials. The Superintendent integrated staff suggestions with reality factors, such as the present system resources, its capacities, and its needs. From this base the idea for PIP was kindled as part of a clear goal-directed organizational plan. Thus, it seems that the Superintendent employed an empirical-rational strategy as evidenced in the organizational changes sequentially adopted and in the introduction of PIP with its systemwide inclusiveness.

A normative-re-educative strategy was also employed in that the Superintendent's arrival was an intervention into the presently operating school system with its set of role relationships and value orientations. Of the two strategies, characteristics of the latter seem to predominate. That is, the Superintendent's leadership was perceived as being properly legitimate in activities such as the creation of divisional responsibilities. Moreover, the following tactics employed in PIP were also characteristic of this strategy: (1) participation, involvement, and commitment at all levels; (2) evaluations of PIP projects; (3) setting goals and measurable objectives; (4) generating rewards; (5) broadening social and educational awareness; (6) release of information; (7) demonstration; and (8) legitimation of risk-taking. With regard to strategy, PIP was carefully designed to be applied as a decentralized operation so that, eventually, field personnel (i.e., principals, teachers, and citizens) would have a fairly broad range of decision-making power.

While it has been useful to review and relate the activities of the Milwaukee Board of School Directors and of the Superintendent to the general strategies for effecting changes in human systems, it is also important to relate the identified strategies to theory, more precisely, to the models built around the specifics of educational change. The six stages for educational change as conceptualized by Havelock (1973) will provide the central focus for the remainder of this section. Briefly stated, Havelock's formulation of the stages of planned change in education are the following: I. Building a Relationship; II. Diagnosis; III. Acquiring Relevant Resources; IV. Choosing the Solution; V. Gaining Acceptance for the Innovation; and VI. Stabilizing the Innovation and Generating Self-Renewal.

In retrospect, the Milwaukee Board of School Directors chose an external resource group, the Academy, whose orientation was consonant with their approach The Academy operated a theoretical mode of educational change closely akin to the Havelock mode. For instance, in agreeing to a contract, the Academy realize that the school system felt a need which at that point was undefined. The panel of six individuals appointed to provide the required services was able to elicit cooperation from the educational community through questionnaires and interview schedules (Stage I). Personnel within the system, including Board members, were open and receptive in the interviewing stages, enabling the panel to gather complete diagnostic information about how the educational system was functioning (Stage II). This information allowed them to make assessments about the calibre of available resources, both those in the Milwaukee community and those outside the immediate geographical confines. The panel was prepared to make available to the school system information about other resources which were relevant to Milwaukee educational needs--written as well as human resources (Stage III). Lastly, the panel through the Academy fedback their findings to the school system along with the recommendations which were believed to be solutions (Initial Phase of Stage IV).

The Academy findings and recommendations regarding quality education in Milwaukee's future were presented to the Board-appointed Citizen's Advisory Committee, and through them to the Milwaukee Board of School Directors. The effect of this presentation was to firmly establish the need for sweeping changes based upon the verifiable diagnosis (Stages I and II). Armed with an awareness of system needs and some indication about likely solutions, the Board continued to pursue a problem-solving course by concentrating on acquiring relevant leadership resources in the search for a new superintendent (Stage III).

In the interim, the Board appointed and charged a special Academy Study Committee with the responsibility of examining methods for implementing the accepted recommendations (Stage IV). It was at this juncture in the problem-solving process that the new Superintendent arrived (Fall, 1967) and was charged with developing a viable plan for implementing the Academy recommendations. Based on 25 areas of priority needs and consideration of likely solutions, he developed a plan for progressive change suitable to the entire school system.

The plan took on its own character in the form of the Program Improvement Proposals prototype and was tried out on a small scale during the 1969-1970 academic year. Approval and support for PIP was obtained from the Central Office Superintendent's Council and the Board (Stage VI). Yet, imperfections and challenges, some of which were residuals from the pilot year and some of which were new, persisted beyond the first year as shown in the evaluations conducted by the Department of Educational Research and Program Assessment. The evaluators recognized the need to retrieve and utilize the knowledge and experience of others--internal and external to the system--in order to avoid repetitious failure (Stage III). Currently, more deliberate efforts are being made in the Milwaukee school system to: 1) stabilize and institutionalize the proven innovations, and 2) establish a cycle whereby self-renewal is generated (Stage VI).

B. THE COMMUNICATION PROCESS: FOUR MAJOR ELEMENTS

There is almost universal agreement among contemporary systems-oriented theorists that communication performs a key linking function. It not only stimulates action, but also serves as an integrative and coordinative mechanism linking all parts of the system into a harmonious pattern. In its simplest form, communication consists of "who says what to whom by what channel to what effect"

Havelock (1969), in his formulation of the linkage construct, has created the following structural elements:

1. Resource persons and systems-senders, disseminators (WHO)
2. User persons and systems-consumers, clients (to WHOM)
3. Message-knowledge, innovation (WHAT)
4. Medium-channel, strategy, tactics (HOW)

Taken as a composite, these four elements have proved to be quite useful in studying not only the knowledge utilization-dissemination flow, but also more generic planned change activities from a structural and/or a process perspective. For these reasons, these elements will provide the framework for the ensuing presentation.

1. Resource Persons and Systems (WHO)

Prior to the introduction of PIP, the Milwaukee Board of Directors used an inside team composed of seven Board members for its 1963 survey. The Board functioned as a source of information to the Survey Committee, and the former Superintendent served as a resource to the Board. In the 1966-1967 study, an external resource, the Academy, was used exclusively. In this instance, a Board-appointed committee, along with the former Superintendent, served as inside supporters.

The hierarchical structure of the Milwaukee school system facilitated the process of each level serving as a resource to the level below it. In the PIP process, the listing of internal resource persons includes the following people: The Superintendent as the inventor and engineer of the innovation; the Deputy Superintendent and the Administrative Coordinator of Categorically-Aided Programs; members of the Superintendent's Council; the Program Service Area Team Leaders; school principals; and the Milwaukee Board of School Directors. Among the internal subsystems utilized were the Department of Educational Research and Program Assessment and the Divisions of Personnel and Curriculum and Instruction. Parents and citizen representatives were considered to be part of the community and external to the school system per se. Up to this point in the life-span of PIP, extensive use has been made of internal resources, while external resources have been utilized only minimally.

2. User Persons and Systems (To WHOM)

Primary users of the PIP process have been those students affected by the approved and funded projects. Students of mixed ages and grade levels have been introduced to a new learning methodology through PIP projects operating on the pre-school, elementary, junior, and senior high school levels. Students representing every achievement level and all of the cultural/socio-economic orientations served by the entire system were included in PIP projects. The secondary users were the teachers and other school personnel who were active in direct student learning experiences. They were users in the sense of having acquired new competencies (i.e., teaching methodologies) as a result of training, new materials, and equipment for teaching.

3. Message (WHAT)

The PIP message was twofold: first, to provide the mechanisms/structure and processes, funds, and climate within which new teaching ideas and technology could be tried out on a limited basis to determine the match between these new ideas and gains in student learning; and second, to legitimate a decentralized concern for changes in school operations, i.e., to make viable local input into educational planning and decision-making.

4. Medium (HOW)

Person-to-person contacts and small and large group meetings were held with school system personnel at different levels to diffuse the innovation. For example, PIP was explained at the meeting between the Superintendent and the special committee studying Academy implications, and also at a Board meeting. In a similar fashion, the Superintendent convened his council to discuss PIP; council members then met with their respective staffs, the department chiefs. Face-to-face dialogue was frequent between department staffs not only during the planning stages, but also during the implementation stages. Section chiefs (i.e., pupil personnel services, elementary and secondary education sections) and Program Service Area Team Leaders held conferences with individual principals, small groups, and larger cross-sectional groups. In addition, house organs such as the Superintendent's Weekly Bulletin, departmental memoranda, and intra-school notices were used. Guidelines, pamphlets, and bound volumes which contained current listings, descriptions, and evaluation reports of funded projects were prepared by Central Office staff. Periodically, articles appeared in the daily newspaper.

The proposal application itself has served as a vehicle for communication, and has increased the number of telephone calls between neighborhood schools and various Central Office departments. In essence, the utilization of various media opened new lines of communication within, between, and among various people and units in the Milwaukee system, and provided an impetus for more cooperative planning and coordination.

C. ANALYSIS OF CHANGE ROLES

In this section, role is perceived of as the actual behavior of an individual and includes the expectations that others hold of that individual. Therefore, role is directly related to the position and status which an individual holds within a system.

Four key roles in the planned educational change process are given by Havelock (1970):

1. Catalyst - one who moves a system toward working on its problems through provocation, prodding, or stress reduction.
2. Solution-Giver - an individual with answers about the what, when, how, and who of a given change. Most importantly, the solution-giver has to know when and how to acceptably convey his solutions to the system.
3. Process-Helper - one who emphasizes a problem-solving framework in a system so that the person helped develops the perceptiveness, understanding, and capacity for being able to solve more problems independently and successfully in the future. The process-helper does not involve himself in the actual decision-making process.
4. Resource Linker - one who forms a bridge between recognized needs and resources (materials, technology, and people) internal and external to a system.

Because these roles do not cover the complete range of possible roles, others will be identified where applicable.

1. Leading Actors

The Special Committee on Equality of Educational Opportunity of the Board of School Directors were catalysts in their activities to obtain updated information on the feelings, attitudes, and problems being faced by central city school staff. Based on information obtained, they proposed solutions to the Board which resulted in new Board policy and massive compensatory education in neighborhood schools.

The Academy for Educational Development, Inc., in their study of the needs for quality education in Milwaukee's system, served as catalysts by triggering a reaction of sufficient import on the part of the system to move them to work on the presented problems and documented recommendations or suggestions for solutions.

The Board of School Directors, in responding to the Academy report, catalyzed the need for change among the administrative staff, through the Superintendent. Another role played by the Board is related to its legal mandate, the employment of personnel, and the appropriation of funds which made PIP a reality.

The Superintendent assumed a variety of roles, some simultaneously, some serially, as he performed the myriad duties and tasks demanded of his position. In relation to the Board, his role was primarily that of a synthesizer and, consequently, an innovative solution-giver during the activities leading up to its affirmative decisions in support of PIP. Concurrent with and consecutive to his role as system synthesizer, the Superintendent's role performance was a combination of innovator, leader, and consultant. With his council, the Superintendent played the roles of: 1) catalyst, in inducing pain or stress around the issues of underachievement and underproductivity in the system (in preparation for some change); and 2) internal resource linker, in making more direct use of competencies and skills in various divisions and departments. In addition, he filled the roles of goal setter-solution-giver and innovator/leader/consultant. Most importantly, the Superintendent modeled the behavior and attitudes he espoused. For example, a climate of openness was created, risk-taking was not only allowed but also encouraged, and all PIP ideas were entertained fully when they were in proposal format. Trust and an espirit de corp were generated and seem to have infected the system with enthusiasm about PIP, down to the level of principals.

The Deputy Superintendent, as the individual carrying major responsibility for PIP, filled the roles of PIP advocate and process-helper in interpretation and clarification of PIP by writing the PIP Guide. Furthermore, he was an innovator to his council colleagues, and a reacter and pacesetter to the new Superintendent as a "seasoned insider." For the Administrative Coordinator of Categorically-Aided Programs, the Deputy Superintendent filled the roles of goal setter, process-helper, and consultant in terms of setting up the PIP process. In addition, he provided leadership and consultation and was instrumental in linking internal resources across departments and up and down levels. While listening to the "defenders of the status quo," the Deputy Superintendent undertook an advocacy role by helping top-level administrators look at the educational "state-of-affairs," and by persuading them of the validity of the proposed change.

The Administrative Coordinator of Categorically-Aided Programs was the chief of day-to-day operations of PIP, and as such held numerous roles. Among these roles were the following: 1) facilitator of new proposals; 2) manager of the PIP process; 3) linker and peacemaker between Central Office staff, teachers and their union, and local schools and their neighborhoods; 4) innovator in modeling the new role prescribed by the

Superintendent; 5) interpreter; 6) clarifier; and 7) leader and consultant with respect to the PIP committee, local schools, and Central Office personnel. Moreover, he possessed a wealth of knowledge about the school system as well as detailed insight about the experiences with the mechanics and operation of federally-supported programs.

2. Supporting Cast

The Divisions of Personnel, Planning and Long-Range Development, Administrative and Pupil Personnel Services, and Curriculum and Instruction* all played a process-helper role with respect to PIP development on the Central Office level. In relation to the implementation of PIP, the divisions tended to be solution-givers once proposals reached their offices and a match was made between the identified needs and the answers, e.g., necessary budget, personnel, materials, and methodology. Upon direct request and within staff capabilities, the roles of process-helper and resource linker sometimes were performed as well. There is the likelihood that in the near future the latter two roles will be utilized more frequently.

Program Service Area Team Leaders played catalytic roles by prodding personnel within individual schools and clusters of schools to develop and try-out new ideas. Many of the Team Leaders provided process-help as goals were set and proposals were prepared. The quality and quantity of assistance given varied, as did the degree to which each Team Leader served as an internal resource linker. Some Team Leaders readily called in personnel from other departments and/or conveyed information which they retrieved from other departments as input at the proposal development stage. On occasion, solutions were provided by Team Leaders. Although Team Leaders were perceived as having a sound conceptual understanding about PIP and the roles they were expected to perform, some Team Leaders were reported to feel uncomfortable in the performance of their new roles because they had not received training in these roles and therefore were unsure about how to perform them.

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*The Department of Educational Research and Program Assessment is part of this Division.

Public School Principals, particularly those in schools where proposals were submitted, played catalytic roles by sparking new ideas and "shaking up" their staffs. They provided solutions to staff and parents on certain concerns and also helped to create a free, spontaneous climate where ideas could flow. Principals usually offered their first level of assistance to staff in goal formulation and proposal development, and then linked staff to resources outside the local school, yet within the school system. Sometimes, principals linked the school advisory and/or parent groups in the PIP process. At other times, parents acted as catalysts for teachers and principals, and occasionally offered solutions and resources. Principals were interpreters, clarifiers, facilitators, and endorsers for their own staff and for parents as well. In some instances, principals played a defender role, opposing changes.

3. Implementers

By and large, *teachers* made up the largest number of project implementers. As such, their roles were mainly as catalysts and process-helpers for students. Some teachers also took on the roles of solution-giver and resource linker. *Principals* administered projects on behalf of implementers, and *Program Service Area Team Leaders* played an on-going supportive role for principals and teachers, i.e., keeping the projects task oriented toward goals and helping to generate solutions to project problems.

The Administrative Coordinator of Categorically-Aided Programs was also involved in implementation. In his job as overseer of the entire PIP process operation, he occasionally intervened directly or through other personnel. With funded projects, he performed a consultative role to Team Leaders and to the Central Office. Other roles filled by the Administrative Coordinator included building and maintaining solid relationships and attitudes toward PIP, and resolving conflicts.

As the allocator of financial resources, the *Board of School Directors* was important to the PIP process. It was through their acceptance or rejection of proposal ideas and try-out results that decisions were made to fund, renew, or discontinue individual proposals. Also important was the role of the *PIP Committee* as it reviewed and prioritized the ordered list of proposals recommended to the Superintendent for funding.

D. AN ANALYSIS OF DISSEMINATION AND UTILIZATION FACTORS

In his massive literature search on dissemination and utilization (1969), Havelock discovered ten factors* which affect the dissemination and utilization of knowledge about innovations. In this section, each of these factors will be defined and related to the innovation under study.

HOMOPHILY

Homophily has been defined as the degree to which pairs of interacting individuals are similar in certain attributes (Rogers, 1971). The actors and supporting cast in the PIP process differed from the student consumers of the innovation with respect to age, education, behavior, and style of communication. In some instances, value, attitudinal, socio-economic, and ethnic-cultural differences existed.

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*There were seven factors originally.

In the case of the PIP Guide which was supposed to explain the innovation to school personnel, it appears that the Guide was written on a level that was too sophisticated for the intended audience. The dissimilarity in language and comprehension presented some difficulties for proposal writers in their efforts to relate goals to programs and outcomes. However, other vehicles already in use, such as in-house organs, were addressed to system personnel in more familiar and comprehensible language, style, and format.

EMPATHY

Empathy is the ability to put oneself in the other person's shoes vicariously, and includes any type of understanding of the other person's situation. On the whole, the Board, administrators, and teaching staff have maintained a sincere interest in the students and in their ability to learn; they seem committed to finding ways to enhance the learning process.

Field visits were utilized by various resource individuals in planning and implementing PIP in an effort to gain a better perspective of the overall system. The technology, methodology, and/or additional personnel were selected for PIP because of their perceived abilities to facilitate student learning on a group basis. How the innovative tools were employed was dependent upon the knowledge and understanding of the characteristics and needs of individual students and groups of students.

LINKAGE

Linkage is the process by which bridges are constructed between existing resources and perceived needs. PIP itself was designed as a linking mechanism, connecting the very top to the very bottom of the school system. The aim was to meet academic needs through local input into the resource system.

In order to implement the innovation, a variety of interpersonal, small and large group meetings, and in-house media were utilized as communication devices. In addition, great use was made of the system's internal resources.

PROXIMITY

Proximity relates to physical, geographical, or organizational nearness or closeness. Multidisciplinary teams with cross-divisional inputs were built at the Central Office level. These new teams enhanced organizational proximity and, to some extent, served as role models for the development and utilization of internal resources both within individual schools and between schools, neighborhoods, and Central Office staff.

STRUCTURE

Structure refers to the identified parts in a system, their arrangements, relationships, and coordinative features. In an effort to facilitate the attainment of long-range goals, the Superintendent regrouped the educational organization into a fairly detailed chain of command. Assistant Superintendents were assigned to each division with commensurate authority. Coordination within and between divisions, vertically and horizontally, was provided by department directors, Program Area Service Team Leaders, and the Administrative Coordinator of Categorically-Aided Programs. Principals become first-line coordinators to funded projects within their schools.

The PIP Guide provided structural as well as procedural information to all members of the system. It was also a useful tool in planning within subsystems and between subsystems; however, the Guide did not contain any information about the length of time it might take to develop a proposal.

CAPACITY

Capacity is the ability of the system to retrieve and marshal diverse resources. Yearly increases in the number of projects supported by PIP is certainly reflective of the system's financial resource capability. Similarly, the system continues to attract and maintain staff whose academic preparation, experiences, and skills provide assets to the school system. Although most of the resources used were, by and large, internal to the system, the metropolitan area of Milwaukee has extensive resources in close proximity which could have been and were occasionally utilized.

There is the proficiency within the present PIP structure to adapt to the minor alterations needed for system-wide dissemination, adaptation, and adoption. In addition, the capacity currently exists to obtain maximum feedback from all levels of the system about the PIP process, structure, and expected products through existing media, channels, and interim and terminal project evaluations.

OPENNESS

Openness is the belief that change is both desirable and possible; it is exemplified in a social climate conducive to change. The openness of the Board of School Directors toward the feasibility and desirability of improving the quality of education for all students has been demonstrated throughout the years, in spite of shifts in Board composition. The decisions about various programs and policies, and the release of funds to support change endeavors are examples of the Board's commitment to change.

The willingness to take risks in changing delivery systems and in educational content and media was present, as was the decision to base funding recommendations more upon need than upon newness of ideas. Numerous strategies and tactics have been engaged in that demonstrate the system's commitment to openness and to changes in educational experiences.

REWARD

Reward is defined as the frequency, immediacy, amount, mutuality, planning, and structuring of positive reinforcements. In its most obvious form, rewards consisted of the funds appropriated for a project and the materials, technology, and manpower which were introduced.

Another type of reward were the psychological benefits accrued as a result of having one's proposal funded or judged to be successful. Status and recognition among peers, principals, and perhaps parents was also part of this reward structure. No doubt, consideration was also given to the individual's accomplishments at the time of annual staff evaluations. Although the system approved in principle some proposals which met acceptance standards but were not funded, one suspects that this approval brought little solace to the originators beyond recognition from principals and peers. Unfortunately, there was little reward for those whose proposals were rejected.

A different type of reward existed for administrative staff. Looking at the organizational structure created, one sees that the Superintendent considered people to be of central importance. His administrative philosophy of shared leadership led him early in his tenure to create a council. This team established the following norms: collaborating, entertaining and sounding out all ideas, decision-making by consensus, reacting honestly and forthrightly, and mutual trust.

ENERGY

Energy refers to vitality in action or degree of effort expended. The Board, Superintendent, and Central Office staff teams invested an extensive amount of time, human effort, and diligence in the innovation from the beginning: 1) in developing PIP; 2) in preparing criteria and guidelines; 3) in reviewing proposals; 4) in monitoring and assessing movement; and 5) in reporting evaluation findings.

As proposal writing was a new experience for school system personnel, and one for which many were ill-prepared, the process entailed a great deal of commitment on the part of those involved. Converting an idea into a workable and measurable form, adding a budget, ordering equipment, and maintaining performance all required great persistence. Even after funding, the task of achieving goals and objectives required endurance, strenuous planning, and no small degree of flexibility. It should also be remembered that all school system personnel participated in PIP in addition to their normal job functions.

SYNERGY

Synergy refers to "togetherness," or the combined action of different forces to produce a single effect. To achieve systemwide installation of PIP, various mechanisms were utilized, e.g., person-to-person contacts, small and large group meetings, and written media. Numerous individuals, groups, and units were consulted during the planning stages of PIP, and reactions were obtained from individuals considered to be influential in the "informal" system. This early involvement of school personnel served to support and reinforce communication which later emanated from the "formal" channels of the system. A synergic effect also was created by utilizing multidisciplinary teams and obtaining cross-divisional input.

E. INNOVATION PROCEDURES USED AND BARRIERS ENCOUNTERED

Based on his previous research, Havelock developed a list of procedures and a list of barriers which have been found to be significant in carrying out an innovation process. These two lists were included in the questionnaires mailed to school systems in the nationwide sample of this project, and were also used in the on-site interviews conducted for this case study. In this section we will present the results of these two questionnaire items.

The following twelve people who held key roles in planning and implementing the innovation (PIP) were involved in the on-site interviews: the Administrative Coordinator of Categorically-Aided Programs, two Board Members, the Deputy Superintendent, the Director of Budget Planning and Fiscal Studies, the Assistant Superintendent in charge of Administration, the Director of Curriculum and Instruction, two Principals, the Chief Union Negotiator, a Program Service Area Team Leader, and a Teacher. Their responses to the procedures and barriers lists are presented in Tables 2 and 3, along with the Superintendent's office responses to the mailed questionnaire.

TABLE 2

Innovation Procedures

	ON-SITE QUESTIONNAIRES													
PROCEDURES	Admin. Coord.	Bd. Mem. #1	Bd. Mem. #2	Dep. Supt.	Dir. Budget	Asst. Supt. Ad.	Dir. Curr.	Prin. #1	Prin. #2	Union Negot.	Team Leader	Teacher	Mailed Ques.	Mean
Creating awareness of the need for change	4	4	4	4	4	4	4	4	4	4	4	0	4	4.0
Systematic evaluation	5	5	4	5	5	0	5	5	5	1	1	4	3	4.0
Finding shared values as a basis for working	4	4	4	4	4	4	4	4	4	3	4	3	2	3.9
Creating an awareness of alternative solutions	4	4	4	4	4	4	4	4	4	4	4	3	3	3.8
Persistence by those who advocate the innovation	4	3	3	4	4	4	4	4	4	4	4	3	2	3.6
Adequate diagnosis of the real educational need	4	4	4	4	4	4	4	4	3	2	3	2	4	3.5
Stressing self-help by the users of the innovation	4	4	4	4	4	4	0	4	4	1	0	1	5	3.5
Starting out with adequate financial resources to do job	4	4	4	4	4	4	4	4	4	1	4	1	3	3.5
Providing a climate conducive to sharing ideas	4	1	4	4	0	1	4	1	4	4	4	1	3	3.2
Adequate definition of objectives	4	3	3	4	4	4	2	4	2	0	0	1	4	3.2
Solid research base	1	4	4	3	3	2	4	3	3	3	4	4	3	3.2
Providing a climate conducive to risk-taking	3	3	3	3	3	0	2	3	3	2	3	2	5	3.0
Selecting a competent staff to implement change	3	3	3	3	3	3	3	3	3	1	0	1	3	2.7
Confrontation of differences	4	1	2	4	4	2	3	3	2	2	2	1	4	2.6
Systematic planning	4	1	4	4	1	3	1	2	1	4	4	1	3	2.5
Utilizing a number of different media to get ideas across	4	1	4	4	0	1	0	0	0	0	0	1	2	2.4
Maximizing chances of participation by many groups	3	2	3	3	2	2	2	4	3	0	3	0	1	2.3
Resolution of interpersonal conflicts	2	2	2	2	2	2	2	2	0	1	0	1	4	2.0
Taking advantage of crisis situations	2	2	2	2	2	2	2	2	2	1	2	1	4	2.0
Involvement of informal leaders of opinion inside schools	2	2	2	2	2	2	2	1	1	2	2	1	2	1.8
Participation by key community leaders	2	2	2	2	2	2	2	2	1	1	2	1	2	1.8
Means	3.4	2.8	3.3	3.5	3.2	2.8	3.1	3.2	3.0	2.3	3.1	1.7	3.1	3.0

Key to the degree of emphasis placed on each procedure: 5=Extreme; 4=Major; 3=Moderate; 2=Slight; 1=None; 0=No Answer

Note: See Appendix A for full titles of those interviewed.

In general, Table 2 indicates that the innovation procedures were felt to have been employed to a moderate degree (mean of 3.0). The mean ratings for each individual also attest to the moderate emphasis given to the procedures. Eleven of the thirteen respondents had mean scores ranging from 2.8 to 3.5. The other two respondents, the Chief Union Negotiator and the Teacher, rated the use of the procedures as having been much lower, 2.3 and 1.7, respectively.

In terms of the individual procedural items, eight received ratings of 3.5 or higher, indicating major emphasis of these procedures. Seven other procedures were rated as having been used to a moderate extent (2.5 or higher). The remaining six procedures were considered to have been used to a slight degree (1.8 or higher). The two procedures rated the highest were #1, "Creating awareness of the need for change," and #2, "Systematic evaluation." The two procedures which received the lowest ratings were #20, "Involvement of informal leaders of opinion inside the school," and #21, "Participation by key community leaders."

[Insert Table 3 here]

Table 3 shows the responses to the question on barriers to the innovation. The overall mean of the ratings is 1.9, indicating that the barriers were perceived as having been of slight significance. The first two barriers, "Shortage of funds" (3.4), and "Disorganization of the planning and implementation efforts" (2.7), received the highest ratings and were considered to have been of moderate importance. Five of the barriers were rated as having had no significance for the innovation: #14, "Lack of communication between staff and students;" #15, "Frustration and difficulty encountered by students during the adoption process;" #16, "Absence of a concerted campaign to put the new idea across;" #17, "Lack of contact with other school systems who

BARRIERS	ON-SITE QUESTIONNAIRES												Mailed Ques.	Mean
	Admin. Coord.	Bd.Mem. #1	Bd.Mem. #2	Dep. Supt.	Dir. Budget	Asst. Supt.Ad.	Dir. Curr.	Prin. #1	Prin. #2	Union Negot.	Team Leader	Teacher		
Shortage of funds allocated for innovation	3	3	3	3	3	3	3	4	4	4	4	[illegible]	3	3.4
Disorganization of the planning & implementation efforts	3	2	1	3	3	3	3	3	3	3	3	3	2	2.7
Frustration & difficulty encountered by teachers & staff in trying to adopt	3	1	2	3	0	1	3	3	3	3	2	2	3	2.4
Lack of communication among the staff	3	1	1	3	3	3	2	3	2	2	2	2	4	2.4
Rigidity of school system structure and bureaucracy	1	1	2	2	2	2	2	3	3	3	3	3	3	2.3
Confusion among staff about purpose of the innovation	1	1	1	1	2	2	2	3	3	3	3	3	4	2.2
Lack of coordination and teamwork within the school system	3	0	2	3	2	2	2	2	2	1	2	3	2	2.2
Lack of adequate contacts w/outside resource groups	4	0	1	4	4	3	3	1	1	1	1	1	2	2.2
Staff's lack of precise information about the innovation	1	2	2	2	2	2	3	2	2	2	2	3	3	2.2
Inadequacy of school plant, facilities, equipment, or supplies	3	2	1	2	3	1	2	3	3	1	1	3	1	2.0
Unwillingness of teachers & school personnel to change or listen to ideas	2	2	2	2	2	2	3	1	2	2	2	1	2	1.9
Shortage of qualified personnel	2	1	1	2	1	2	2	2	2	2	2	2	3	1.8
Feeling by teachers & staff that innovation would have little benefit for them	3	1	1	2	2	1	1	1	1	1	2	1	3	1.5
Lack of communication between staff & students	1	1	1	1	1	1	2	1	1	1	2	3	1	1.3
Frustration & difficulty encountered by students during adoption process	1	1	1	1	1	1	1	1	1	1	0	2	1	1.1
Absence of a concerted campaign to put the new ideas across	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0
Lack of contact with other school systems who had considered same innovation	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0
Unwillingness of resource groups to help us revise or adapt	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0
Means	2.1	1.4	1.4	2.1	2.0	1.8	2.1	2.0	2.0	1.8	2.0	2.2	2.2	1.9

Key to the degree of emphasis placed on each barrier: 5=Extreme; 4=Major; 3=Moderate; 2=Slight; 1=None; 0=No Answer

Note: See Appendix A for full titles of those interviewed.

had considered the same innovation;" and #18, "Unwillingness of resource groups to help us revise or adopt." The remaining eleven barriers were rated as of slight importance.

The individual mean scores show substantial agreement on the slight importance of all of the barriers, with eleven of the thirteen mean scores ranging from 1.8 to 2.2. The two Board Members considered the barriers to have been of no importance, with both of their mean scores being 1.4.

Some of the items on the barriers list are the converse of those on the procedures list. It is interesting to note that the highest-rated item on the barriers list, #1, "Shortage of funds allocated for the innovation," was rated as having received moderate-to-major attention as procedure #8, "Starting out with adequate financial resources to do the job." Other items that appear on both lists show more consistency in the ratings. For example, procedure #15, "Systematic planning" (2.5) received slight-to-moderate attention, and barrier #2, "Disorganization of the planning and implementation efforts" (2.7), was considered to have been a slight-to-moderate problem. In general, Tables 2 and 3 are consistent with one another, indicating that the innovation procedures were emphasized to a moderate degree, and that the barriers encountered were seen as having been of slight significance.

APPENDIX A

List of Positions of Persons Interviewed in the Milwaukee Public School System

Administrative Coordinator of Categorically-Aided Programs

Assistant Superintendent in Charge of Administration

Board Members - 2

Chief Negotiator for the Teachers' Union

Deputy Superintendent

Director of Budget Planning and Fiscal Studies

Director of Curriculum and Instruction

Principals - 2

Program Service Area Team Leader

Superintendent

Teacher

APPENDIX B

Systemwide Change Plan

Phase One of the plan for progressive change was presented to the Milwaukee Board of School Directors in January of 1968, with activities centered upon the functions of planning and personnel. The following change strategies and tasks were proposed:

1. Creation of a Division of Planning and Long-Range Development

   Tasks: Budget planning and fiscal studies
   Facilities planning and administrative research
   Educational research and program assessment

2. Creation of a Division of Personnel

   Tasks: All tasks related to certificated personnel

Phase Two of the change design mainly dealt with educational and recreational program operations and development. A Deputy Superintendent position was allocated to administer four new divisions, each of which would be headed by an Assistant Superintendent. The four divisions were the following:

1. Administrative and Pupil Personnel Services
2. Division of Curriculum and Instruction
3. Division of Pupil Personnel
4. Division of Municipal Recreation and Adult Education

Furthermore, Phase Two specified the elimination of the Department of Federal Projects, shifting state categorically-funded project responsibilities to the Divisions of Relationships, Planning and Long-Range Development, and Pupil Personnel.

Another aspect of Phase Two centered around a team concept that would facilitate pooling strengths and resources. Program Service Area Team Leaders, formerly known as Curriculum Specialists, were assigned the responsibility of coordinating team efforts in addition to their former tasks. Program

Service Areas are comprised of clusters of elementary and secondary schools throughout the city. Two senior high, two feeder junior high, and 15-20 elementary schools are paired from inner and outer-city school areas in an effort to provide an appreciation for cultural/economic plurality, an understanding of in-depth educational needs, and a broad base for problem-solving. Flexibility in forming these clusters is important in order to facilitate alterations once new needs surface. The seven Program Service Areas initially formed are still in existence.

Phase Three of the Milwaukee plan for educational change was fundamentally addressed to communication and relationship building. Organizational changes were undertaken in an effort to keep the Administration fully informed in the decision-making process, and to improve, expand, and extend communication efforts. The Department of Community Relations was reclassified as the Division of Relationships and was assigned the following areas of concentration:

1. School and Community Relations
2. Mass Media
3. Governmental Relations
4. Publications

Phases Two and Three were endorsed by the Milwaukee Board of School Directors in May of 1968, upon the recommendation of the Board-appointed Academy Study Committee.

APPENDIX C

Office of the Deputy Superintendent

A DESIGN FOR PROGRAM DEVELOPMENT

February, 1971

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Appendix	

RATIONALE FOR PROGRAM DEVELOPMENT

No educational system can afford to stand still. It must, by design, continuously assess program effectiveness and give needed attention to inadequacies or obsolescence; it must, by design, identify opportunities for strengthening or improving programs; it must stay alert to newly developing ideas, concepts, and practices so that the recipients of the system's efforts -- the pupils -- benefit from the best educational opportunities that can be offered. A rationale and design for program development is therefore offered to foster and encourage a collective effort toward this movement forward and to provide a structure through which it can occur.

Program development is that activity by which a school system accomplishes continued improvement of the educational process. Effective program development requires the meaningful participation of the several levels of school personnel as well as of the community. One means through which program development can be encouraged, fostered, and implemented is the "program proposal" developed by a school, cluster, department, or division.

Provision of a structure for program development through the creation of program proposals enables school personnel and concerned community to focus their thinking and sharpen their perceptions of the needs of pupils in their schools. While it is recognized that the identification of learning needs of pupils is a complex and difficult task, this identification must be accepted as a key matter and basic focus of program proposals. Using pupil need, therefore, as a basis of planning, the ensuing moves toward selection of goals, definition of specific objectives, design of program, and method of evaluation should result in programs that have definition and accountability. Additionally, participation in proposal development should serve to give further definition and purpose to clusters and program and service areas as school personnel in these groups relate to needs that are characteristic of a particular area of the city.

Development of program proposals from all levels of the school system is an important component of the administrative decentralization effort. One intent of this effort is to provide the means and the structure in which the several levels of school personnel together with concerned community can provide an input toward improved educational service. Balancing this input and identifying areas of thrust is the task of the central administration, thus providing coordination to program development and also avoiding unnecessary duplication of program experimentation.

It must be assumed that not all proposals submitted will be approved and funded. Some may be disapproved, while others may be returned for further definition and revision. Even those that are placed in the approved category may not all be authorized due to funding limitations. However, the approved but not funded proposals will serve the purpose of providing knowledge of the expressed needs of the schools and therefore identification of various directions for program development.

PROPOSAL DEVELOPMENT AND SUBMISSION

A proposal for program improvement should be accomplished through the coordinated efforts of those who will be involved in its implementation. Thus, a proposal from a school would be the result of input by teachers, school-community committee, and where appropriate, students, under the leadership of the principal. Proposals from groups of schools or clusters should likewise have these several levels of involvement.

Development of a proposal should begin with an identification of pupil learning needs so that whatever program is designed, its purpose and effort will relate directly to those defined needs. Once needs have been identified and documented, goals are then determined. Obviously, the goals should relate to the needs. As components or subsets of these goals, specific objectives would then be selected and stated in such a way that they can be measured with some objectivity. Once this is done program design can then be accomplished. Finally, a method or plan of evaluation which focuses on measurement of the stated objectives can be developed.

Central office supervisory assistance will be available during the process of developing a proposal. Schools and clusters should make their first contact with their assigned team leader who may then request the involvement of the specific subject or grade level supervisor for specific assistance with the identification of pupil learning need and with the concepts and design of a proposal. With the knowledge gained in giving this assistance, team leaders can then keep clusters informed with respect to on-going efforts being made in those groups.

When a proposal has reached its final form, it is then submitted by the principal(s), cluster chairmen or appropriate central office staff to the Office of the Deputy Superintendent. Here receipt of the proposal will be acknowledged in writing and the proposal will be routed to appropriate offices for further work and possible revisions and recommendations with respect to its approval or disapproval. Principals will be informed as to the status of their proposals as they reach approval or disapproval stages.

The well conceived, well written proposal can be identified by the following characteristics:

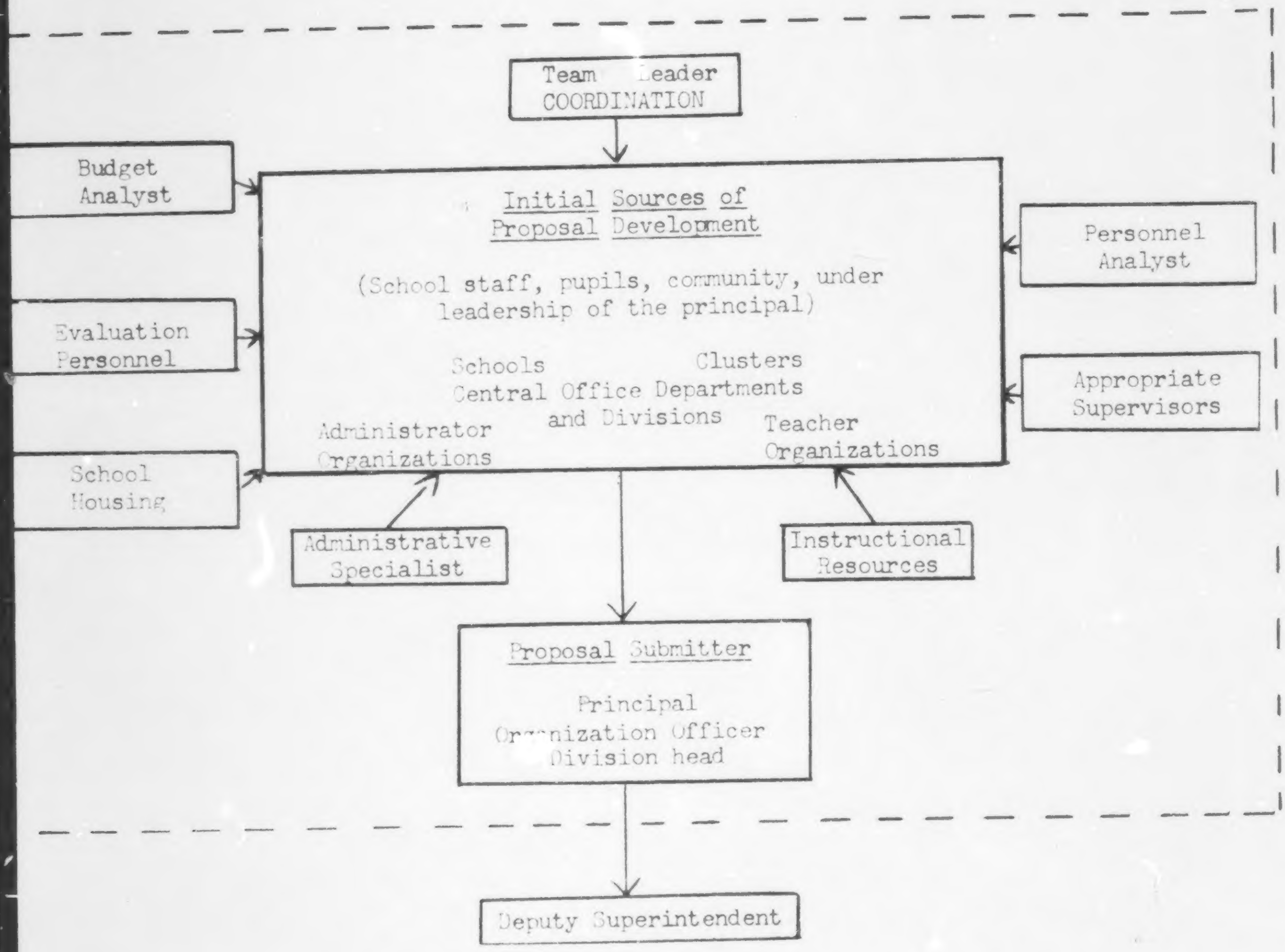
1. It contains a clear statement of pupil and/or school needs with adequate documentation.
2. It contains a statement of goals that relate to the need.
3. It contains a selection of specific objectives, clearly stated, that contribute to the goals.
4. It presents a program design that includes:
    a. Description of proposed learning activities
    b. Pupil involvement (number, grade level)
    c. Staff involvement (additional, redeployment, job descriptions)
    d. Length of program
    e. Cost of program
        1. Staff
        2. Equipment and/or materials
        3. Space

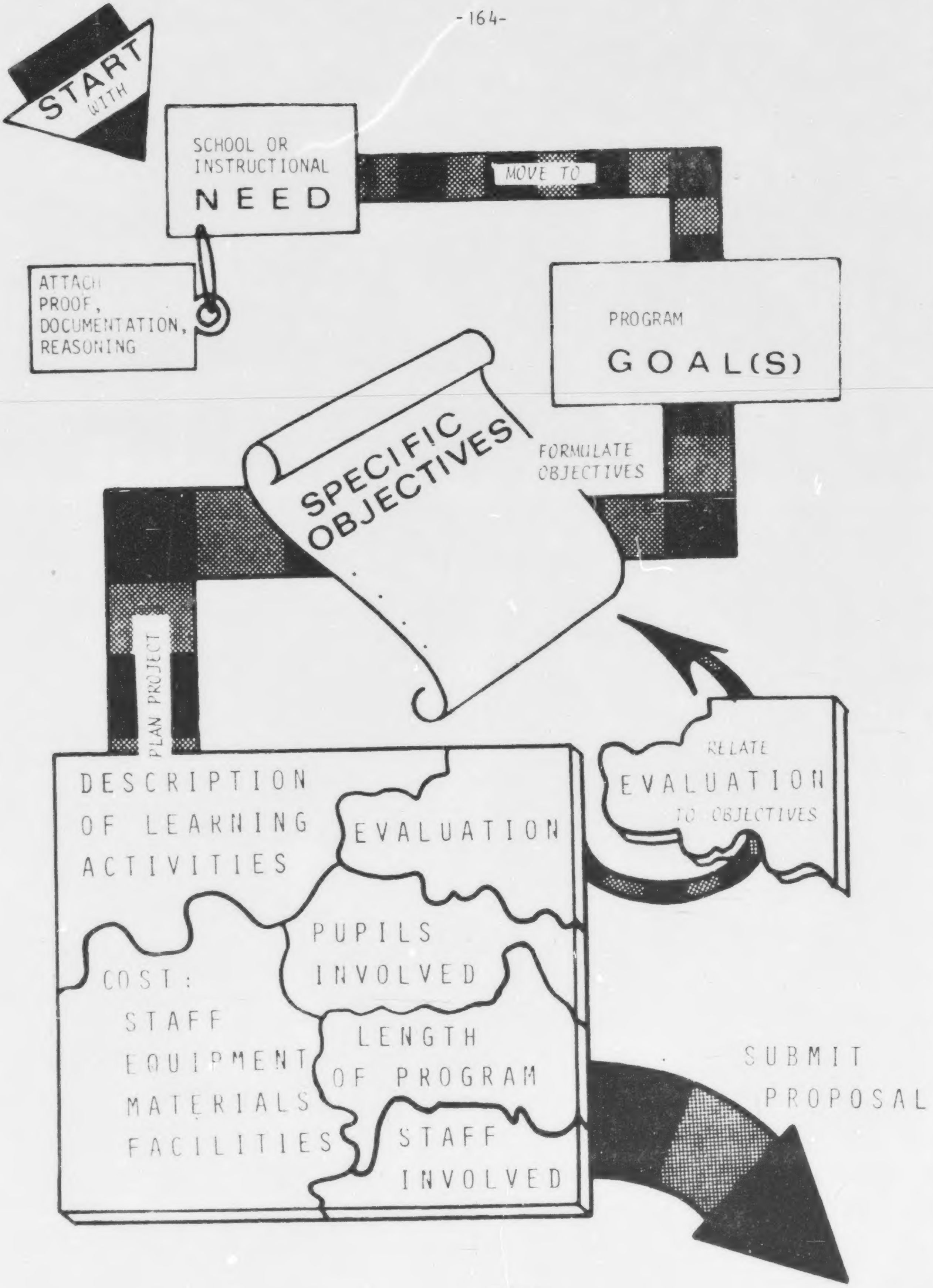
5. It presents a plan of evaluation of the program in terms of the stated objectives.

6. It involves staff and/or community in proposal development.

7. It is written clearly, accurately, and concisely.

Involvement in Proposal Development


Team Leader
COORDINATION
Budget Analyst
Evaluation Personnel
School Housing
Initial Sources of Proposal Development
(School staff, pupils, community, under leadership of the principal)
Schools
Clusters
Central Office Departments and Divisions
Administrator Organizations
Teacher Organizations
Personnel Analyst
Appropriate Supervisors
Administrative Specialist
Instructional Resources
Proposal Submitter
Principal
Organization Officer
Division head
Deputy Superintendent

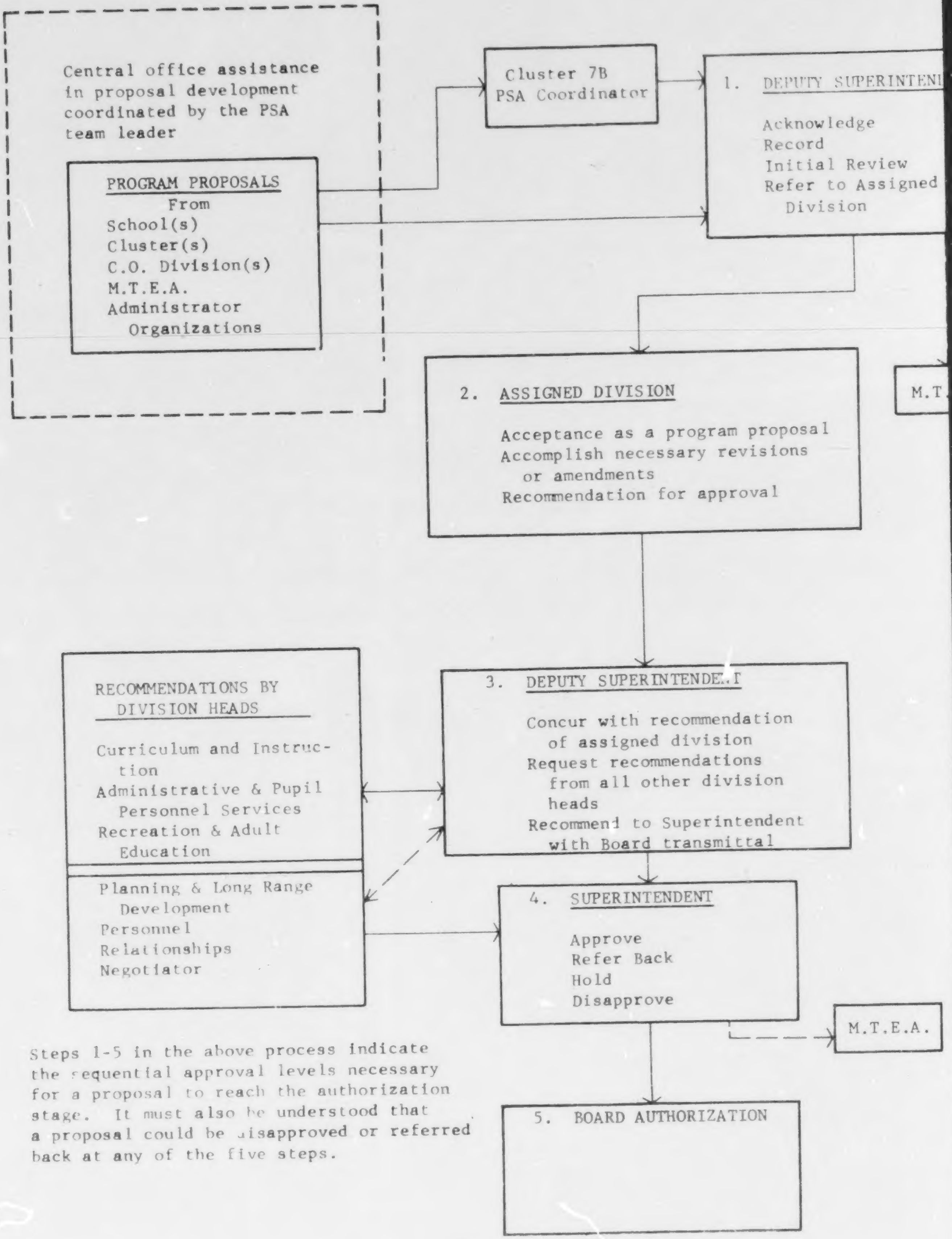

START WITH
SCHOOL OR INSTRUCTIONAL NEED
ATTACH PROOF, DOCUMENTATION, REASONING
MOVE TO
PROGRAM GOAL(S)
FORMULATE OBJECTIVES
SPECIFIC OBJECTIVES
PLAN PROJECT
DESCRIPTION OF LEARNING ACTIVITIES
EVALUATION
PUPILS INVOLVED
COST: STAFF EQUIPMENT MATERIALS FACILITIES
LENGTH OF PROGRAM
STAFF INVOLVED
RELATE EVALUATION TO OBJECTIVES
SUBMIT PROPOSAL

PROPOSAL REVIEW, PRIORITY DESIGNATION, AND AUTHORIZATION

After proposals have been developed and written, a defined structure is provided through which they can be submitted, reviewed, and acted upon. Since the Office of the Deputy Superintendent is charged with the responsibility for program operations and development, it has the task of coordinating a process which results in determining proposal priority. This priority is then recommended to the Superintendent.

The accompanying chart illustrates the route to be followed for proposal review and authorization.

ROUTE FOR PROPOSAL PROCESSING AND AUTHORIZATION


Central office assistance in proposal development coordinated by the PSA team leader
PROGRAM PROPOSALS
From
School(s)
Cluster(s)
C.O. Division(s)
M.T.E.A.
Administrator Organizations
Cluster 7B PSA Coordinator
1. DEPUTY SUPERINTEN
Acknowledge
Record
Initial Review
Refer to Assigned Division
M.T.
2. ASSIGNED DIVISION
Acceptance as a program proposal
Accomplish necessary revisions or amendments
Recommendation for approval
RECOMMENDATIONS BY DIVISION HEADS
Curriculum and Instruction
Administrative & Pupil Personnel Services
Recreation & Adult Education
Planning & Long Range Development
Personnel
Relationships
Negotiator
3. DEPUTY SUPERINTENDENT
Concur with recommendation of assigned division
Request recommendations from all other division heads
Recommend to Superintendent with Board transmittal
4. SUPERINTENDENT
Approve
Refer Back
Hold
Disapprove
M.T.E.A.
5. BOARD AUTHORIZATION

Steps 1-5 in the above process indicate the sequential approval levels necessary for a proposal to reach the authorization stage. It must also be understood that a proposal could be disapproved or referred back at any of the five steps.

REVIEW OF PROPOSALS BY DIVISIONS

Curriculum and Instruction

Quality of the basic concept.

Value of the proposal in terms of its contribution to the instructional program.

Application to the identified thrusts of the school system.

Quality of the proposal in terms of its goals and objectives, program design, and plan of evaluation.

Realism in terms of requested personnel, equipment and materials, cost, and length of operation.

Administrative and Pupil Personnel Services

Quality of the basic concept.

Practicality of administering the proposed program in a school or group of schools.

Possible staffing problems.

Application to present laws, policies, and procedures governing school attendance.

Municipal Recreation and Adult Education

Quality of the basic concept.

Possible coordination with objectives and programs in recreation and adult education.

Planning and Long-Range Development

Implications with respect to long range goals of the system.

Recommendations with respect to:

1. Proposal objectives
2. Plan of evaluation
3. Budget
4. Facilities

Note specific roles of the departments on the following pages.

Personnel

Implications with respect to personnel requested -- quantity, types of positions, levels of positions.

Relationships

Implications with respect to community involvement.

Possible effect of program on community relations.

Value of the program in terms of promoting the image of the school system.

ROLE DEFINITION OF PERSONNEL INVOLVED IN PROGRAM DEVELOPMENT AND IMPLEMENTATION

Schools and Community	Program development begins with the concern of school staffs and community under the leadership of the principal for further development of the educational process as it relates to the important educational needs of pupils. Program proposals developed by schools should focus on ways in which these needs can be met more effectively than with present efforts.
Principals	-- Provide the structure in which proposals can be conceived, developed, and written by a coordinated effort of staff and concerned community. -- Provide the leadership to insure proposal quality. -- Submit proposal to Deputy Superintendent. -- If proposal is authorized, act as project director and assume leadership for program implementation and accountability for program results.
Team Leaders	-- Provide leadership in proposal development by personal involvement with school staffs and principal. -- Assist school staffs in identification of greatest pupil need. -- With the help of the appropriate supervisors and personnel from other divisions, advise in the building and writing of proposals. -- Coordinate the interdivisional efforts necessary to bring proposals to a final state of preparation. -- Coordinate the needed supervision in program operation. -- Monitor program to insure operation within its approved definition and purpose.
Assigned Division (In most cases this would be the Division of Curriculum and Instruction)	-- Provide initial evaluation of proposal after it is referred by the Deputy Superintendent to determine 1) acceptance for further necess processing or 2) referral back to the proposa submitter for major revision. -- Receive and respond to initial inquiries from MTEA seeking clarification information. -- Provide the coordination and assistance to bring proposals to the state of preparation needed for recommendation to the Deputy Superintendent. -- Assist schools to implement authorized progra with the help of team leaders and appropriate supervisors. -- Account for program effectiveness through use of the evaluation by Department of Educationa Research and Program Assessment.

Assigned Division (continued)	-- Recommend continuation, expansion, or termination of operating programs.
Division of Administrative and Pupil Personnel Services (School Administrative Specialist)	-- Serve as a resource person to the principal. -- Assist the team leader in coordinating the development of proposals. -- Assist schools in the administration of authorized programs.
Division of Planning and Long-Range Development	-- Maintain awareness of approved and authorized proposals to help identify major areas of emphasis and thrust. -- Help to avoid duplication of experimentation. -- Assist POD in establishment of proposal priority.
Budget Analysis	-- Provide budget analysis assistance to program planners. -- Coordinate approved program budget with data processing and accounting. -- Monitor program expenditures to prevent budget being exceeded. -- Maintain position control record for all authorized programs.
Research and Evaluation	-- Assist proposal developers in the design and plan of the evaluation component. -- Develop necessary components of the evaluation plan. -- Assist schools to implement the evaluation design. -- Gather necessary data for program evaluation. -- Complete written evaluations of programs.
Facilities	-- Analyze proposals in terms of the feasibility of the facilities and building repairs needed. -- Coordinate the implementation of facilities and repairs when proposals are authorized.
Division of Personnel	-- Study proposals in terms of requests for personnel services. Assist proposal developers to design the personnel component of their proposals. -- Assist in the development of job descriptions. -- Secure and assign additional personnel called for in authorized programs.
Division of Relationships	-- Interpret programs to the school system and to the community. -- Maintain awareness of programs in operation and publicize their effectiveness.

All Divisions	-- Provide the necessary assistance to schools in the development of proposals (budget, personnel, etc.) -- Evaluate proposals in terms of proposal guidelines and with respect to divisional concerns. -- Assist schools to put approved programs into operation.
Deputy Superintendent	-- Provide the structure in which the program development can take place and the guidelines under which program proposals can be written. -- Coordinate the submission of proposals into the procedure provided for processing and priority designation. -- Provide leadership to POD staff in its respo sibility for giving review and recommendatio of proposals and their priority assignment. -- Receive and review recommendations of all division heads with respect to approval of proposals. -- Approve proposals for recommendation to the Superintendent. -- Receive and review reports from all division heads with respect to effectiveness of programs in operation. -- Recommend to Superintendent continuation or termination of operating programs. -- Identify program effectiveness with respect to possible city-wide application.
Chief Negotiator	-- Receive copy of proposals as initially submitted to the Deputy Superintendent. -- Provide interpretation of proposals as they relate to the teacher contract. -- Interact with MTEA at the time the proposal has tentative endorsement of the Superintendent.
Superintendent	-- Provide final decision with respect to proposals to be recommended for Board authorization -- Disapprove -- Hold (proposal bank) -- Approve
Board	-- Authorize or disapprove proposals recommended by the Superintendent.

PROJECT OPERATION AND MANAGEMENT

At the point where a proposal receives authorization by the Board of School Directors, it then becomes an actual project ready for implementation in the manner described in its approved content. It is then assigned to the appropriate division under which direction and aegis it will operate. To assist in project implementation, central office personnel are assigned from their divisions and departments for the specific tasks that need to be accomplished.

The accountability for project operation rests with the principal(s) involved and the central office division to which the project is assigned. Thus, the principal(s) and the assistant superintendent of that division are responsible for project operation and will be expected to report to the Deputy Superintendent in terms of project success or the lack of it and with respect to recommendations for continuance.

To assist project directors and other concerned staff in orderly implementation of authorized projects, the following list should be of assistance in the identification of necessary specifics of operation:

TASK	RESPONSIBILITY
Assignment of the project to the proper operational division	Deputy Superintendent
Identification of project director(s)	Assigned Division
Transfer of budget account	Department of Budget Planning and Fiscal Studies and the Accounting Division
Coding	Department of Budget Planning and Fiscal Studies and the Data Processing Division
Requisition signature authority	Project Director(s) and Accounting Division
Schedule necessary building repairs and/or acquisition of facilities	Department of Facilities Planning and Administrative Research and Repair Division
Acquisition of authorized additional staff	Division of Personnel
Establish and maintain position control	Department of Budget Planning and Fiscal Studies and Project Director(s)
Acquisition of approved materials and equipment	Project Director(s)
In-service activities	Project Director(s) and Project Staff
Initial evaluation activities (i.e., pre-testing)	Department of Educational Research and Program Assessment

TASK	RESPONSIBILITY
Full project operation in accordance with approved design	Project Director(s), Project Staff, & Project Participants
Interim reports	Project Director(s)
Monitor expenditures	Department of Budget Planning and Fiscal Studies, Project Director(s), Accounting Division
Monitor project operation	Assigned Division, Project Director(s)
Interim and final evaluation activities	Department of Educational Research and Program Assessment
Develop budget for next fiscal year	Department of Budget Planning and Fiscal Studies and Project Director(s)
Final evaluation report	Department of Educational Research and Program Assessment
End of project report	Project Director(s)
Prepare continuation proposal if project renewal will be requested	Project Director(s) & Project Staff

SUMMARY DATA SHEET FOR PROGRAM PROPOSAL

1. Originator: School ______________________________

(Fill in One) Cluster ______________________________

Central Office ______________________________

2. Proposal Title:

3. Brief Summary of Proposal Intent and Design:

4. Date Program Would Begin ______________ Termination Date ______________

5. Summary of Personnel Needs:

No. of additional certificated positions ________ Level ________

No. of additional non-certificated positions ________ Level ________

6. Facilities:

Additional space needed? Yes ______ No ______

Building modification needed? Yes ______ No ______

7. Budget Summary:

Normal costs for full year of operation ________

Costs for the remainder of this fiscal year ________

8. Submitted by:

Name ______________________ Signature ______________________

Position ______________________ Date ______________________

Revised 1/17/71

PROPOSAL FOR PROGRAM IMPROVEMENT

I. Originator of Proposal:

(Fill in one line only)

School ____________________

Cluster ____________________

Central Office ____________________

II. Title of Proposal:

III. Statement of the educational problem or pupil need on which this program would be based. Provide documentation or proof of this problem or need. Use additional pages if needed.

IV. General goals or purposes of this program (If possible, indicate how the stated goals correlate with the identified system-wide thrusts).

V. List specific performance objectives. Include who is expected to perform at what level under what conditions.

VI. Program Design

A. Describe the learning activities, instructional program, in-service activities, etc., that characterize the program as it will operate.

B. Identify and describe the pupil population (number, grade level, schools) that will be directly involved in program operation.

C. Identify the staff that will be directly involved in program operation (teachers, aides, supervisory, administrative). Describe the tasks and responsibilities of this staff. If additional staff is being requested, fill out the attached Position Request Data Sheet.

D. Provide a description of the equipment, materials, and facilities needed to carry out the program. Refer to the Facilities Utilization Data Sheet (blue form) and provide the information requested if applicable to the program.

E. Provide a projection of the period of time during which the program would operate — when it would begin and when it would end.

VII. Cost of the Program

On the sheet provided (Program Budget Request) indicate the cost breakdown of the program. If needed, the services of the budget analyst assigned to the PSA can be requested through the team leader.

VIII. Briefly describe the involvement of staff and/or community in the development of this proposal.

(When using additional pages, keep the page numbering system intact by designating such pages as 2A, 3A, 3B, etc.)

Items 1, 2, and 3 are to be listed by proposal developers. The Department of Educational Research and Program Assessment will complete items 4 and 5 in coordination with proposal developers.

(1) Performance Objectives	(2) Process	(3) Subjects	(4) Instrumentation	(5) Data Collection Schedule	
(From # V on Page 2)	Project activity which accomplishes each objectivo	No. & Type	Tests, Data Collection Procedures	Dates	Collected by

POSITION REQUEST DATA SHEET

(Information requested on this form is to be provided if the proposal includes a request for the services of personnel in addition to those already assigned under the normal staffing ratio.)

Please provide the requested information for each position called for in the proposal as follows:

1. Position Title ______________________________ Total No. of these Positions ___
2. Certificated or Classified ______________________________
3. Suggested Position Level ______________________________
4. Days Per Year of Employment ____________ Part-time or Full-time ____________
5. Duties (Indicate the individual duties and responsibilities to be performed which wou typify or characterize the position assignment.)

____

____

____

____

____

6. Qualifications
   A. Degree Required ______________________________
   B. Major Field of Study ______________________________
   C. Experience Required or Desirable ______________________________

____

____

____

7. Position would be Supervised by ______________________________
8. Position would Supervise what other Positions? ______________________________

____

____

____

4/6/70 (Use a separate sheet for each different position level.)

T/b

FACILITY UTILIZATION DATA SHEET*

Program ____________________ School ____________________

1. Will project require space which is now used for other purposes? __________

   Will project require exclusive use of space? __________

   Number of Classrooms __________

   Number of Offices __________

   Other __________

2. Will project require any building modifications? __________

   Nature of modifications (please explain)

   Structural __________

   Electrical __________

   Heating __________

   Plumbing __________

   Painting __________

   Accoustical Treatment __________

   Other (explain) __________

3. Will project require installation of equipment? __________

   Explain __________

   What utilities will be required? __________

4. Will additional furniture be required? List:

*Fill out this form only if the information requested applies to the proposal.
4/7/70

PROGRAM BUDGET REQUEST

FISCAL DATA SHEET

Fund ______

Program ______

Proposed by ______ Date ______

School ______

INSTRUCTION	No. of Positions	1972 Budget Mo.___ to Mo.___	1973 Budget Mo.___ to Mo.
1. SALARIES (list positions)			
2. SUPPLIES			
Educational			
Prepared Materials			
Books and Magazines			
Other			
3 SERVICES			
General			
Other (Specify)			
4. OTHER EXPENSES			
Evaluation			
Other (Specify)			
TOTAL INSTRUCTION			
MAINTENANCE OF PLANT			
Replacement of Equipment			
Repairs			
TOTAL MAINTENANCE OF PLANT			
CAPITAL OUTLAY			
Additional Equipment			
Plant Improvement			
TOTAL CAPITAL OUTLAY			
FIXED CHARGES			
Fringe Benefits			
PROGRAM TOTAL			

1/17/72

SCHOOL OPERATIONS FUND

ADDITIONAL EQUIPMENT

(1) SCHOOL ______________________ PROJECT TITLE ______________________

(2) Quan-tity	(3) Item and Description	(4) Unit Cost*	(5) Total Cost*	(6) Fund	(8) Budget Con-trol Number	(9) For Budget Planning Office Use

PROVIDE INFORMATION FOR ITEMS 1 - 5 ONLY

*Please do not use cents -- round off to nearest dollar.

12/1/70

APPENDIX

SYSTEM-WIDE PROGRAM THRUSTS AS IDENTIFIED BY THE ADMINISTRATION

Extend work experience programs

Explore various teaching-learning designs to improve student achievement

Accommodate students with special needs in regular classroom situations insofar as possible

Explore year-round school

Extend parent, community, student, and business sector participation in school undertakings

Support experimental activities and projects to determine ways of improving educational experiences for students

Study ways of improving servies to students, e.g., guidance and counseling, psychological, etc.

Combine reading resources in ways that will improve reading achievement of students.

CENTRAL OFFICE PROCESSING SCHEDULE FOR PROGRAM IMPROVEMENT PROPOSALS

Task	Time Needed
1. Receipt of proposal by Deputy Superintendent from submitter. a. Acknowledgement to submitter and the referral of proposal to assigned division. b. Informational copies to MTEA and the Chief Negotiator.	One week
2. Decision by assigned division to accept proposal or refer it back for major revision.	One week
3. Work by assigned division to bring proposal to a final state of preparation.	4-8 weeks
4. Submittal of the proposal by the assigned division to the Deputy Superintendent.	
5. Consideration by Deputy Superintendent of proposal readiness.	One week
6. Transmittal of proposal to Administrative Council members by the Deputy Superintendent.	
7. Reactions by Assistant Superintendents regarding the proposal to Deputy Superintendent and/or Superintendent.	Two weeks
8. Approval of the proposal by the Deputy Superintendent for recommendation to the Superintendent.	One week
9. Preparation of Board transmittals: a. To the Committee on Appointment and Instruction by assigned division b. To Committee on Finance by Department of Budget Planning and Fiscal Studies	
10. Interaction between Chief Negotiator and MTEA with respect to the proposal prior to final recommendation by the Superintendent.	
11. Final consideration by the Superintendent and the Administrative Council of the proposal and the Board transmittals.	X minus 15 days
12. Transmittal to Board members.	X minus 12 days
13. Board committee recommendations.	X minus 7 days
14. Board authorization.	X

(THIS PAGE FOR CENTRAL OFFICE USE ONLY)

INTERDIVISIONAL TASK SEQUENCE FOR PROCESSING OF PROGRAM PROPOSALS

(To be used by team leaders working with staff members in the various divisions on the sequence of tasks necessary to bring proposals to a final state of preparation. In most cases, it will be advisable to accomplish these tasks in the order suggested.)

Signature of staff member indicates that departmental representative has analyzed and reacted to the proposals in terms of the items listed. Reactions are stated in the space provided or on attached memorandum.

1. Department of Educational Research and Program Assessment:
   Are objectives adequately stated, measurable, and of consequence?
   Is there congruence among the problem, objectives, and process?

Dr. Gary Peterson

2. Department of Facilities Planning and Administrative Research:
   Is it feasible to provide the requested facilities, modifications, furniture, and equipment?

Mr. William Seiser

3. Certificated Personnel:
   Staff function adequately defined?
   Staffing requests compatible with policies?

Mr. Jack Houk

4. Classified Personnel:
   Staff function adequately defined?
   Staffing requests compatible with policies?

Mr. Robert Williams

(THESE PAGES FOR CENTRAL OFFICE USE ONLY)

5. Department of Instructional Resources:
Recommendations regarding requested items of equipment and their value to the program.

Mr. Robert Suchy

6. Department of Budget Planning and Fiscal Studies:
Are budget requests related to the defined processes for: Personnel, Supplies, Services, Other Expenses, Equipment, Plant Improvement.
Does expected outcome justify the proposed cost?

Mr. Emmett Moll

7. Department of Administrative Services:
Feasibility of proposed program in terms of administrative policy.

Mr. Robert Long

8. Other department(s) as necessary in terms of the nature of the proposal.

9. Department of Elementary and Secondary Education:
Recommendation for approval of the proposal by this department is made to the division head.

Dr. Frisby Smith

With the approvals on the previous pages the proposals should be ready for final consideration by the assigned division for submission to the Deputy Superintendent.

Proposal recommended to the Deputy Superintendent by the assigned division.

Signature of Division Head

APPENDIX D

Examples of Funded Projects

The following examples of projects funded during the second year of PIP were taken from the Milwaukee Public School publication, "It's a PIP," of January, 1972.

Cluster Project Aims to Improve Reading

A systems approach with interaction in all phases of its development was incorporated in the design of an improvement project in reading to help pupils in 11 elementary schools in the Custer cluster achieve their potential.

The project is one of 47 program improvements approved and funded by the Board of School Directors in 1970. It involves in-service training for about 200 kindergarten and elementary teachers and administrators to suggest new techniques in the teaching of reading and acquaint them with new curriculum and instructional materials.

Four additional reading resource teachers have been assigned to the cluster, according to James Bigaj, reading consultant and project director. Bigaj said there are eight such teachers in the cluster.

Under the project, each participating school received approximately $2,000 worth of new supplementary reading materials designed for underachievers as well as pupils at or above their grade level.

Multimedia Materials Used

"Some of the new materials are multimedia in nature and involve the use of listening posts, headsets and tape recorders," Bigaj said. "They will better meet the needs of those pupils requiring attention and instruction on a one-to-one basis."

Planning for the project began in September by a committee headed by Lester W. Garbe, Twenty-fourth Street School principal, and Miss Marion Thornbery, principal of Edison Junior High School and also the cluster chairman. Teacher representatives from each building and members of the MPS administrative staff were involved in the planning.

The series of 19 in-service meetings began Jan. 26 with an introductory general session for cluster personnel. Dr. S. Alan Cohen, assistant professor of education, Yeshiva University, N. Y., spoke on the topic "Intensive Reading Instruction."

At another general session Feb. 16, Dr. John Manning, professor of education, University of Minnesota, demonstrated techniques for diagnosing skill deficiencies through oral reading. Future sessions will feature Adrian Sanford, founder of the Educational Development Corp., Palo Alto, Calif.; Tony Simon, editorial director for Scholastic Magazines; and Dr. William Martin, Jr., author of several reading series published by Holt, Rinehart and Winston.

At the general sessions, members of the supervisory staff and the reading resource teachers also demonstrate various ways of using new materials and suggest independent activities and innovations in the teaching of reading.

In the weeks when general sessions are not scheduled, teachers meet in their assigned schools with the reading resource teachers and supervisory staff to concentrate on systematic ways of identifying pupil strengths and weaknesses in word analysis. Specific ways of teaching these skills also are presented and discussed.

The kindergarten teachers in the cluster follow a similar schedule for the first five weeks. Other sessions are based on the development of pre-reading skills and related independent activities for kindergarten pupils.

To accommodate the project, pupils in participating schools are released at 2 p.m. each Tuesday so teachers can take part from 2:30 to 4 p.m. To make up the time, pupils regularly begin school at 1 p.m. instead of 1:15 p.m.

Pupils Study English as Second Language

Imagine teaching a class of 28 junior high school pupils who were born in Greece, Spain, Poland, Yugoslavia, Hong Kong, Korea and Puerto Rico.

Facing the challenge of teaching English as a second language to this mini-UN are Miss Zoe Ganos and Mrs. Josephine Trifilo who serve in the orientation center for English as a second language at Steuben Junior High School.

Now in its second year, the class is one of 69 experimental efforts specially funded by the Board of School Directors under the designation of "program improvements."

The purpose of the orientation center is to give junior high school age pupils intensified training to achieve proficiency in English, thus enabling them to complete high school at the age level of most other pupils.

The foreign-born pupils are grouped according to their English language facility as beginning, intermediate, or advanced. Assisted by the teachers and a paraprofessional, they spend the equivalent of two periods in guided independent study — one devoted to the audio-oral aspects of English and the other to reading and writing. They spend the afternoon in regular classes at Steuben.

Miss Zoe Ganos (left) and Mrs. Josephine Trifilo work with pupils in the orientation center for English as a second language at Steuben Junior High School.

Language Laboratory Used

A language laboratory in the center is used by the class in the morning and by other Steuben pupils studying a foreign language in the afternoon. Miss Ganos and Mrs. Trifilo are assigned to other schools as itinerant teachers of English during the afternoon. They also consult with the pupils' homeroom teachers, prior to the beginning of classes in the morning.

Not all pupils requiring special English instruction can be enrolled in the orientation center, according to Anthony Gradisnik, curriculum specialist, department of elementary and secondary education. Nine other teachers travel to elementary schools to give English instruction to more than 200 pupils.

'Working Well'

Gradisnik said that with the cooperation of Principal Raymond Kiehl and the school's guidance department, the orientation center is working well. Assisted by the two teachers, guidance counselors screen the pupils for placement and also help pupils with adjustment problems.

Gradisnik noted that the program of teaching English as a second language began in the mid-fifties with two or three itinerant teachers.

A variety of non-graded, flexible task groups comprise the intermediate learning center at Allen-Field School. Mrs. Mary Norton (right background) and Miss Nancy Goetzman (not shown) are the team leaders. Mrs. Donna Opola (left), a UWM student teacher, has the attention of one task group.

Learning Centers at Allen-Field School

A total of 235 pupils are enrolled in four learning centers at Allen-Field School. The program was started in the fall of 1970 with special program improvement funds and renewed and expanded last August for three more years.

The learning centers are a part of the school's master plan to maximize pupil potential through individualization of instruction. The program has had a salutary effect on pupil motivation as well as achievement, according to Mrs. Sarah Graffenberger, principal.

Four multi-age centers serve pupils at various achievement levels. They are (a) primary — for pupils from kindergarten through the upper primary level, (b) ungraded — for pupils from middle primary to grade 5, (c) intermediate — for pupils from grades 4 through 6, and (d) a readiness center for bilingual kindergarteners and selected pupils from the regular lower primary classes. Teaching is in the pupil's dominant language, English or Spanish.

Pupils remain in the learning centers for one year, but can be reenrolled to continue in the program. The pupils represent about one-fifth of the school population, Mrs. Graffenberger said.

The centers are self-contained and utilize differentiated staffing, team teaching, and individualized learning materials. Instruction is geared to the individual pupils through non-graded, flexible task groups, work-study "discovery centers," appropriate instructional materials, and diagnostic grouping and regrouping.

Each center is staffed with two teachers, three or more student teachers, and two aides. The centers allow maximum use of available space in the school, Mrs. Graffenberger said. The school has more than 1,100 pupils and 42 teachers.

Plans for the learning centers were developed by the Allen-Field teachers and parents with the cooperation of supervisory staff members in the division of curriculum and instruction. Initially, Miss Elaine Bartel, assistant professor of curriculum and instruction, University of Wisconsin-Milwaukee, served as a consultant to the project. In-service workshops for the entire school staff have been held the past two summers.

Mrs. Graffenberger said that as a result of the workshops, teachers not in the learning center program are experimenting with techniques and materials in their self-contained classrooms to spread the individualization concept throughout the school.

Individually Guided Education

Schools Put New Focus on Learning

Individually Guided Education (IGE) in a multi-unit organization is being tried this year in four MPS elementary schools.

Thoreau and Victory are completely organized as multi-unit schools. At Franklin, a cooperative teaching project is continuing in the primary classes to take advantage of the "pod arrangement" of classrooms in the new wing of the school. McKinley, a fifth and sixth grade only school, has classes which are organized on a unitized basis.

IGE is a system of instruction which recognizes the great variation in what each child learns, how rapidly he learns, and differences in how children go about learning. The multi-unit school creates a non-graded environment where IGE practices can be installed and maintained. A unit consists of 120 to 160 pupils, a corresponding number of teachers, a para-professional, and one or two aides.

Four-Step Cycle

IGE is a four-step cycle consisting of (1) assessment, (2) choosing objectives, (3) implementation of a learning program, and (4) reassessment. The cycle is repeated again and again in each subject for each pupil.

The program permits pupils to have learning experiences tailored to individual needs. Pupils operate individually or as members of small groups who have more or less identical needs.

The system involves identification of a set of school-wide objectives and a range of objectives suitable for smaller groups. After assessing each pupil in relation to the objectives, it is necessary to plan and implement instruction in terms of activities, materials, time, and space.

Gains from the new system are twofold. Pupils are taught at a level and rate, and in a way that is appropriate at any given time. Teachers spend more time diagnosing pupils' needs and helping them to attain them and less time at tasks not directly connected with the instructional program.

The teachers in a unit meet regularly as a team to plan learning experiences for the pupils. The team plans and directs activities not only for the pupils, but also for the teacher aides who assist in small group and individual instruction, preparation of materials, record keeping, and training pupils to use audiovisual hardware and other learning materials which are an integral part of the system. Optimum use is made of teachers, teacher aides, materials, and school space.

Miss Hartung Is Liaison

Multi-unit organization and IGE have been under research and development since 1965, according to Miss Adeline Hartung, curriculum specialist, department of elementary and secondary education. They were pioneered by the Research and Development Center for Cognitive Learning at the University of Wisconsin in Madison and tested in Wisconsin school systems and in other states.

Miss Hartung is serving as liaison between MPS and the Wisconsin Department of Public Instruction. IGE programs at the four schools are financed by the board from the program improvement fund.

CHAPTER FOUR

THE TALENTED STUDENT PROGRAM

A Case Study from
Brevard County, Florida

[Case Study drafted by Todd Areson.
Assisted by Maren Naumann-Etienne.]

BACKGROUND AND METHODOLOGY

The following case study is the product of a two day visit in June, 1972 to Brevard County, Florida, for the purpose of collecting data on the recently initiated Talented Student Program. With the permission and full cooperation of members of the Brevard County School System, two interviewers used the appended interview schedules to elicit further information about the process involved in the creation of the Talented Student Program.

Interview Schedule I, the longer form, was used with the two key innovators, the Director of Curriculum and Staff Development and the Director of Research and Evaluation. Interview Schedule II was used with the Assistant Superintendent for Instruction, a Curriculum Coordinator, a School Board member, and several students, teachers, principals, members of the project review council, and one parent.

The procedure followed in utilizing the information elicited in the multiple interviews was to consolidate the information gathered by the two interviewers into a coherent narrative within the case study framework.

The completed draft was subsequently reviewed for accuracy and completeness by the two key innovators. It is to both the innovators, as well as to the other people mentioned above, that we are indebted for the generous and helpful cooperation they gave us in conducting this case study.

CASE STUDY

Brevard County, Florida

I. THE INNOVATION

A. OVERVIEW OF THE TALENTED STUDENT PROGRAM

In May, 1971, the Brevard County School Board, consisting of five members, approved the allocation of $20,000 in funds to create and develop a program for the identified "talented" student in the county. This program mandate was turned over to the Assistant Superintendent for Instruction who, through his staff in research and curriculum, developed a program proposal for "talented" students in grades five through eight throughout the county. The proposal presented a program that would allow the learner to plan and undertake an experience of his own choosing, making use of whatever personnel, school and non-school, and whatever materials would be necessary to accomplish the learning objectives.

B. RATIONALE FOR THE PROGRAM

The idea for a program for "talented" students was the suggestion of one of the five county school board members. This board member did not agree with the concept of classes proceeding at a unitary pace or "block rate" and believed, also, that schools should be educating our most capable children for positions of future leadership in the country. Knowing that there existed special program in others spheres of education, it seemed a natural step to this board member to argue for the creation of a program that spoke to the particular needs of the "talented" student, as well. So it was that in May, 1971, this board member proposed that some of the county's school budget be allocated for the development of a program for the "talented" student.

C. PROGRAM ELEMENTS: PARTICIPANTS, DECISION-MAKERS, CRITERIA

"Talented" students were selected according to the following criteria:

1) the student must score in the top 15 percentile in his area of interest on the Stanford Achievement Test;

2) he must have a B or higher grade average in all academic areas in semester grade averages for the previous two years;

3) he must be recommended for participation in the program by a teacher and principal.

In the case of students interested in areas not tested by the Stanford Achievement Test (for example, art, music, acting, or dancing), the student would have to provide evidence of previous commitment to the interest in order to satisfy criterion 1.

This innovation was purposefully aimed at the elementary-intermediate level of students, with the thought that too often the talent of this level of students either goes unnoticed or is passed over in favor of the talented students on the high school level.

The principals of those county schools which included grades five, six, seven, and eight were notified of the Talented Student Program in early Fall, 1971. They were given roughly two months in which to select those students eligible for participation in the program. During this time, it was left to the discretion of the eligible student to decide whether or not he would submit a proposal for a project.

During late fall, 1971, a project review council was established. Its function was to select the student projects to be funded. Referred to as a "blue ribbon" committee, this 20-man council consisted of outstanding professional and community leaders. The rationale for creating this review council with such a composition included the following assumptions:

1) the existence of a professional and community "elite" would help to legitimize the project for the county citizenry;

2) the composition of this group would emphasize the importance in the venture of liaison between the school system and the community;

3) the council's business contacts and acquaintances might prove helpful in locating the proper persons and/or places to aid in carrying selected projects to completion;

4) the varied composition of the review council would take the final decision for the funded projects out of the hands of an otherwise strictly school-comprised committee.

The project review council met for two days in mid-January, 1972, to select those projects to be funded. Their criteria for project selection were as follows:

1) proposals submitted by eligible students;

2) an evaluation of the proposal through:

    a) the content of the project: individuality, objectivity, plan, and output with respect to the product, its intended result and dissemination;

    b) any significant and lasting impact on the student as a result of doing the project;

    c) the project's relevance to society, social needs, the county and its school system;

    d) the estimated potential for success of the proposed project.

As a result of their sessions, the review council selected 34 projects, including 44 students for funding (one project involved 10 students), out of 188 student proposals submitted. The 154 proposals not funded were returned to the applicants with a letter of explanation that although they couldn't be funded then, the students were encouraged to submit them again at an appropriate time. The letter emphasized the fact that the issue of their being funded at some point was anything but closed. At least two of the non-funded proposals were funded through outside sources, one being Patrick Air Force Base.

Roughly 80% of the funded projects were carried through to completion during the spring of 1972, many over the spring school vacation. During May and June, 1972, some of the students participating in the program voluntarily attended school board meetings and gave a brief synopsis of their projects with the results.

D. CONSEQUENCES

Some of the consequences that have accrued from the initial year's Talented Student Program include:

1) submission of proposals in 1971-72 from students at approximately 50% of the schools with grades five, six, seven, or eight;

2) continued and increasing interest, excitement, and participation by parents and other community people;

3) a tremendously positive response from all community sectors after seeing the projects created and operating;

4) an impact felt, expectedly, in the local communities and county and, rather unexpectedly, in the state and various parts of the nation;

5) an expectation that fall, 1972 will see an increase

    a) in proposals submitted for potential funding by the review council;

    b) in the percent of schools represented in Fall, 1972 by student proposals;

    c) in the school board allotment to enable continuation, expansion and improvement in the program.

II. DEMOGRAPHIC INFORMATION ON BREVARD COUNTY

Brevard County is located on the central eastern coast of Florida and covers an area roughly 77 miles long by 15 miles wide. It is the home of the Kennedy Space Center, the nation's first spaceport, which is under the auspices of both NASA (the National Aeronautics and Space Administration) and the Department of Defense. The Space Center is the assembly and launch site of the Saturn V moonrocket and the Apollo spaceships. The adjacent Cape Kennedy Air Force Station serves as the heart of the Air Force Eastern Test Range.

Between 1950 and 1970, the county's population grew more than 1000 percent, from 23,000 people to over 230,000 people. Correspondingly, there was a 1600 percent increase in school enrollment during the same period. Since 1970, school enrollment has decreased 3.2% or by some 2,000 students, roughly. Yet, in spite of this decrease, the county's budget has been increasing, though slightly, during these three academic years.

The primary industry in the county during this phenomenal boom era has been the space industry. However, because of increasing federal expenditures for the development of the space industry, there were few efforts spent on planning for a diversification of the county's economic base. Unfortunately, when the federal government reduced its expenditures for the space program for the fiscal year 1970, the concomitant reduction in revenue brought about massive personnel layoffs at Cape Kennedy and throughout the space industry. The county's absence of a diversified economic base took its toll on the inhabitants in high unemployment.

Presently, of those who have remained in the county, many are unemployed or underemployed - and for many there is no sign of meaningful employment in sight. This excess of skilled personnel on the labor market in the county has only compounded the difficulties of the unskilled, low income resident. The resultant loss in population and rise in unemployment due to the space cutbacks have crippled both governmental and privately-owned service activities; in 1970 the Economic Development Administration designated Brevard County a "redevelopment area."

One of the present bright spots for the county is its vision toward increased tourism and retirement settling. Part of the county's coastal area is presently being developed as an ocean-side facility for visitors to the nearby Disney World. As for retirement settling, hundreds of recently constructed luxury and suburban type homes were placed on the market as a result of the federal cutbacks. This situation has created a "buyer's market" in such homes with little down payment required.

The public school system has kept pace with the proximate space program and the challenge of rapid growth in the 1960's. A unique and innovative feature has been a county-wide no-graded program, implemented in 1968-69, in which all students are tested diagnostically in all programs and placed in instructional groups that meet their specific needs. The system consists of 8 high schools, 14 junior high or middle schools, and 44 elementary schools, with approximately 3,000 persons directly involved in instructional programs and over 2,000 full-time people in supporting services. The school system is divided into three geographic areas, each one having an area Superintendent and staff--north, central and south--under the Superintendent of Schools. Perhaps, a major problem faced by the school system in the late sixties has been a turnover in leadership created by four changes of Superintendents in as many years. However, one of the strengthening features to result from a Title III project funded in the late sixties is the creation and adoption of a cabinet advisory system by the Superintendent.

The county offers a variety of educational and social resources. Brevard Community College, with two centers in the county, accommodates over 8,000 students, who pursue either a selected two-year associate degree program or some type of non-degree program in technical and vocational skills. Also available at Brevard Community College are several programs leading to the bachelor's degree, in cooperation with Florida Technological University. Florida Institute of Technology, a private university in the county, offers majors in numerous technical fields for over 2,100 students. The Hydrospace Technical Institute, situated at Cape Kennedy, is an affiliate of Florida Institute of Technology. Both Stetson University and Rollins College have satellite centers in the county. The public library system is a federated system with eight centers and operates on a yearly budget of over $500,000. Finally, there are numerous civic, social, professional, and avocational clubs and organizations, as would be expected in an area of this size.

III. THE INNOVATION PROCESS: HOW THE TALENTED STUDENT PROGRAM CAME TO BE ADOPTED

In May, 1971, at its monthly meeting, the Brevard County School Board considered for approval the already-proposed county school system budget. It was in this "eleventh hour," in looking over the proposed budget, that one of the five board members noticed that no allocation had been made for "talented" students. This member, a lawyer who does not agree with the concept of classes proceeding at a median pace, in an attempt to allow for individual pacing for bright students, proposed that funds be allocated for those on the "upper end of the talent spectrum." His argument hinged on the concept of singling out excellence and rewarding it as a means of producing the leaders we will need in this country in the future. The argument "took" completely; board members voted 5-0 in favor of allocating $20,000 for the implementation of a program to aid in the educational development of the "talented" student. State funds for gifted students had been cut off two or three years prior to this time.

This $20,000 allocation was sufficient to initiate some program that would start to meet and develop the needs of the talented student. But, school officials recognized shortly that the operating budget was not increased by the voted-on $20,000 for "talented" students. As a result, the money for the program had to be drawn completely from the system's discretionary funds. The amount drawn from discretionary (or contingency) funds was $10,500, of which $8,000 was spent during the program's operation. At this same meeting, the mandate for designing a program responsive to the "talented" student passed from the members of the school board to the Assistant Superintendent for Instruction.

Between the May, 1971 school board meeting and the June, 1971 school board meeting, the Assistant Superintendent for Instruction turned over the responsibility for developing a program proposal to two members of his staff, the Director of Curriculum and Staff Development and the Director of Research and Evaluation. These two men formed the nucleus of a task force to develop a program design that would not only provide a program for "talented" students, in accord with the school board's mandate, but also would be responsive to the interests and learning objectives of the students involved in the program. This "task force" approach was a derivative of the Title III project from the late sixties. It is worth noting that the two program developers recognized they were under a time constraint to produce a program proposal for the next monthly school board meeting. For this reason and since the idea for the program did not originate with them, the two developers believe that the time pressure to produce the program proposal cramped their normal method of production and, thereby, did not allow them as much time as they would have liked to develop the program more fully and broadly before presenting it for approval.

The program proposal, itself, was presented at the monthly school board meeting in June, 1971, designed for high academic ability students in the fifth through eighth grades of school and stating that "programs to serve their needs should be exploratory; provide opportunity for individual investigation, and be of a nature that content and depth can be easily altered to suit the learner." (p. 2) The criteria for selection of students were spelled out as follows:

1) a student is interested in learning more about some phenomenon; he writes a brief outline indicating what he would like to study;

2) he is asked to establish objectives, describe what he would like to do to accomplish the objectives, and indicate how he could tell if the objectives had been met;

3) the student's teacher reads the outline and determines that the student meets the criteria established for exceptional talented students;

4) the teacher submits this information and other background information on the student to the project review council.

The project review council, composed of outstanding leaders from the community, would be empowered to select those projects it felt would provide unique and rewarding learning experiences and to commit some amount of money for the implementation of the project.

The uniqueness of the program was characterized by these features of the proposal:

1) the program would involve community leaders in the educational process;

2) it would provide learning experiences and settings that could not be duplicated in the classroom;

3) the experience and knowledge gained by the students would undoubtedly stand out as one of the unique experiences of their school career;

4) the program would be completely flexible to meet almost any worthwhile project submitted.

A final item included in the proposal is a suggested timetable for the completion of details necessary to the implementation of the program.

The program proposal was adopted at this June meeting of the school board and, over the summer of 1971, the Assistant Superintendent for Instruction, the Director of Curriculum and Staff Development, and the Director of Research and Evaluation made plans appropriate to effect successful implementation of the program during the academic year 1971-1972.

The plans these three county school officials made included the following actions which did, in fact, come to pass:

On October 7, 1971, the Brevard County Curriculum Department housed at Monroe Center in Cocoa,* sent out a letter to all principals of elementary and junior high schools in the county, informing them of the Talented Student Program; the mailing included the details necessary for principals to pass along sufficient information about the program and its operation to their administrative staffs and teachers. As a follow-up measure, the same county school officials held separate meetings with the principals of both the elementary schools and the junior high schools.

On November 3, the Monroe Center office sent out invitations to twenty leading professionals in the community (in business, industry, government, the military, etc.), extending them the opportunity to serve on the project review council for the program.

One week later, November 10, following up their letter from one month prior, the Monroe Center office sent out a memorandum to all principals, teachers, and counselors working with students in the fifth, sixth, seventh, and eighth grades. This memorandum included specific information on how "talented" students could participate in the program, i.e., criteria for their participation in the program, important dates, information the proposals should contain, a sample letter explaining the program to parents, a project application form, and a "Special Project Application" form to be submitted by the student's teacher.

On November 30, Monroe Center sent out a follow-up letter to the twenty community citizens contacted earlier as potential review council members. This letter also established the second week of January, 1972 as the time for the first review council meeting. In the following few weeks, all twenty leading citizens accepted the invitation. From the time of Monroe Center's initial letter to the school principals on October 7 until December 17, the due date established by Monroe Center for a project's eligibility for funding, the school principals and their staffs communicated information about the program to the students and their parents, and carried through the action phase of the program involving submission of all proposals to Monroe Center for consideration by the review council.

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*Monroe Center is the instructional and programs materials center created in the aforementioned Title III project; it serves as the home base of several county school officials, including the two program developers.

On January 6, 1972 the Monroe Center office sent off a letter to the members of the project review council inviting them to the first council meeting on January 13. At this meeting, a brief background was given and the Director of Curriculum explained how the projects were read and screened before being sent to the committee members. After presenting several suggestions to the group on avenues for pursuit, the Director of Curriculum asked for suggestions and opinions on implementing the program. After some discussion, a motion was made and approved that criteria for evaluation of the projects be defined, with the group dividing into sub-groups for evaluation and selection of roughly 50 projects for top award and the remaining 130 being handled in some fashion at the local level. The five sub-groups were:

1) ecology, biology;
2) art, music, language;
3) health services;
4) anthropology, astronomy, archaeology;
5) physical science.

The committee agreed to meet the following week to select the funded projects. On January 20, the project review council held its second and final meeting for the selection of funded projects. Of the 188 projects submitted, 34 were selected for county funding and involved 44 students.

In February, a team of three county officials, including the Directors of Curriculum, of Research and Evaluation, and the Support Services Coordinator divided the funded projects equally among themselves, in order to work closely with the students involved and support them in their initial efforts in making arrangements and getting each project off to an auspicious beginning. Also, they tried to find a teacher-coordinator for each school having a funded project. These teachers were identified through each principal, who gave his expressed promise to see each student through his project.

As teacher-coordinators were selected and as appropriate sponsors were found, whether parents, teachers, or other community citizens, the county trio gradually withdrew from their collaboration and allowed the student and his sponsor to carry through the project. Even so, they kept in touch with the students and their projects by tabulating and mailing a monthly form on which the student could record his progress including initial results or difficulties encountered. An initial finding, here, was that the student needed to be matched carefully with a sponsor.

During the spring and, more particularly, over the spring vacation, approximately 80% of the funded projects were researched. Some of the students, at their own discretion, have reported on their projects to the school board at its monthly meetings in the late spring (1972).

In June, 1972, plans were being made by the Monroe Center officials to call the project review council together for a "celebration" dinner, to commemorate their roles in the success of the program and, more importantly, to give them a chance to meet once again after the successful completion of most of the funded projects.

IV. MELDING PRACTICE AND THEORY IN THE INNOVATION

A. WHAT MODEL OF CHANGE?

The process of change coursed by this innovation, from its mandate by the school board to its implementation as a fully-operational program, corresponds very closely with the "power-coercive" approach described by Chin and Benne (section 1.3) in Bennis, Benne, and Chin (1969).

The "power-coercive" model for effecting change places emphasis, generally, on both political and economic sanctions in the exercise of power. Coincidentally, both of these elements are highly evident in the innovation and implementation of the Talented Student Program.

Politically, the school board charged the school system, i.e., the Superintendent of Schools, to create and develop a program for the "talented" student. Since political power carries with it certain legitimacy, the Superintendent, as the chief representative of the school system, was not able to deny or ignore the legitimate power implicit in "his" school board's mandate without threat of loss of job or some action similar. The board's mandate was facilitated, in addition, through economic leverage; the board allocated $20,000 from its annual budget in order that this program would be a feasible economic undertaking for the school system even though this sum had to be taken from the existing school funds without expanding the total budget. In effect, the board's $20,000 allocation allowed it to exercise a coercive influence over the Superintendent's decision as to how this money was to be spent. The money's expenditure was directed, specifically, to a program for the identified "talented" student.

Although one's expectations might be to the contrary, this case illustrates the fact that implementation within the "power-coercive" model of change need not be oppressive. The Superintendent, as the embodiment of the school system, was given completely free rein by the school board to design and develop a program suitable for the "talented" student. As we are aware already, the task was delegated to the Assistant Superintendent for Instruction who, in turn, assigned two key members of his staff to the project. That is, the design, development, and implementation of the Talented Student Program were carried out democratically by the professionals within the school system who would normally design, develop, and present to the school board for approval any new project and/or program.

Similarly, throughout the implementation of the Talented Student Program in the eligible county schools, the theme of "coercive power" is present. The notification sent all principals, teachers, and counselors on October 7, 1971 originated with the Assistant Superintendent for Instruction, an individual generally recognized as more powerful in the school system than any one recipient of his letter. In addition, the choice of "enforcement," i.e., implementation of the innovation, was left entirely to the discretion of the involved principals, teachers and counselors. That is, implementation was achieved democratically at the whim of these self-volunteered principals, teachers, and counselors.

To contrast the "power-coercive" model of change with the "problem-solving" model, we can recognize several elements in this innovation which either fit or do not fit the latter model. For example, the need for a program for the "talented" student did not germinate from systemic and in-depth diagnosis. Rather, it was proposed as a need by one member of the school board, who was running his own agenda - the necessity to allow bright students to progress at their own pace.

On the other hand, there was considerable resource retrieval by the two developers. They made use of the ERIC catalogues at Monroe Center and sent off for any materials they determined were worth further investigation. In addition, they surveyed library and regional educational laboratory publications for existing programs for the "talented" even though they subsequently decided that they "didn't want to go that route!" This sequence of events illustrates an initial acceptance and subsequent turning away from an RD&D approach to effecting change. Certainly, the use of Monroe Center and their "task force" approach were important in enabling them to search for and acquire appropriate resources.

Elements of the "social interaction" model are evidenced in the rationale, selection and use of the Project Review Council (see again section Ic).

Finally, the approach to finding a "solution," i.e., designing a program for the "talented," is similar to that used in the problem-solving model. The developers searched through potential resources, acquired those needing further perusal, and "homed-in" on those found relevant. After discarding several possible programs and/or their adaptations, they agreed on what solution they were after and set about designing it accordingly. Their Talented Student Program is the result. It is worth noting that the program itself relied heavily on student initiative and self-help, thereby incorporating a major value of the "problem-solving" model for effecting change.

B. THE COMMUNICATION PROCESS: FOUR MAJOR ELEMENTS

In his Planning for Innovation (1969), Havelock makes use of Laswell's (1946) formula for communication: "who says what to whom by what channel to what effect." From this formula, he derives four major elements of the communication process:

1) resource persons and systems - senders, disseminators (who);
2) user persons and systems - consumers, clients (to whom);
3) message-knowledge innovation (what);
4) medium - channel, strategy, tactics (how).

These four elements - resource system, user, message, and medium - constitute a simplified mode of analysis for most planned change or dissemination events. Consequently, it would seem important to review, briefly, these four elements as they are reflected in the innovation under study, the Talented Student Program.

Resource Persons and Systems (Who): Several elements composed the internal resources most utilized throughout the innovation: the two key innovators; library facilities; Monroe Center; the finance department, which cut through much "red tape" to facilitate the necessary financial support for the program; certain school officials; those schools with students selected for participation; and the sponsors. The external resources were equally numerous: ERIC; publications from regional educational laboratories; universities and colleges which supplied professors and facilities to support some of the projects; community and county professional groups; the project review council, and people and organizations within and beyond the immediate county.

User Persons and Systems (To Whom): The ultimate users of the innovation were the talented students whose projects were selected for funding by the project review council. Initially, the "user system" included all 188 students who submitted project proposals for consideration - those whose projects were selected for funding and those whose projects were not selected for funding under the program.

Message (What): The message was the initiation of a program for "talented" students in grades five through eight, a program which would allow the student, if funded, to undertake an experience in research of his own design. The message included, at least implicitly, an understanding that the weight of the school system would be fully behind the funded student and his project - perhaps for the first time ever!

Medium (How): The media included in the process of the innovation would be: The Titusville Star-Advocate, local newspaper; Today, an area newspaper, and numerous pieces of written correspondence between the county school officials and principals of schools containing grades five, six, seven, or eight; telephone conversations between the same parties; group meetings between county school officials and principals of the schools involved; written correspondence between the schools involved; correspondence between the school involved and the parents of children in grades five through eight; dialogue at the county school board level and its dissemination in the local newspaper; dialogue among the members of the project review council and its ensuing "ripple effect" beyond the immediate members of the council; and so on.

C. AN ANALYSIS OF CHANGE ROLES

1. Key Figures

Brevard County School Board - The complete board, and particularly the member who proposed the allocation of funds for a program for the "talented" student, must be considered *catalysts* in the innovation process. It was they who prodded the school system into designing and developing a program for the talented student. They not only recognized an existing need that was not being met, but they also made it possible, financially, for the school system to meet it.

Officials in the County School System - The Assistant Superintendent for Instruction served in a dual capacity as a *knowledge linker*:

(a) between the school system and the school board as the conveyor of both the board's mandate and the legitimate power behind the board's mandate;

(b) between the school system and the two developers within the system, both of whom were members of his staff.

The role of *innovator* was filled, certainly, by these two developers: the Director of Curriculum and Staff Development and the Director of Research and Evaluation. It was they who invented and adapted the program's design and served as major advocates of the innovation. The Director of Curriculum, in addition, played a pivotal role as a *knowledge linker* in that he was the person who was knowledgeable about power and influence; he diagnosed the elements of power and influence within the school system and the larger "community system" and charted their appropriate use for the program's design.

2. Major Figures in Implementation and Others

Principals, Teachers, and Sponsors - Although principals and teachers did not play a role in the design of the program, they did play a major role in the implementation of the program.

Without their active support and efforts, the program would not have been implemented. In point of evidence, those principals and teachers who chose not to inform their "talented" students of the program were effective *resistors* since their "talented" students did not know they could submit proposals for funding consideration.

This resistance was passive but effective and took several forms. Some resistors thought the program wouldn't work and therefore didn't support it; some took a "wait and see" attitude toward the program; and others showed their resistance in the manner in which they passed on information about the program. In any event, almost 50% of the eligible schools had no student proposals submitted for consideration by the project review council. Sponsors also played a major role, with their enthusiasm, moral support, and "know-how" greatly determining the amount of "system support" the students perceived they had.

Project Review Council - The twenty members of the council represented the solid and professional leadership of the community and, by virtue of their "opinion leadership," influence, and enthusiasm in selecting the projects to be funded, they must certainly be considered *opinion leaders* and *gatekeepers* for the success of the overall program. The launching they gave the Talented Student Program was, undeniably, "A-OK." A major element of the "social interaction" model of change becomes apparent here, in that the members of the review council, as influential members of the client system, appeared critically important in helping determine the community's eventual rallying behind the fledgling program. Five members of the council, all school officials, served in the additional role of *linker*. Three have already been mentioned: the Assistant Superintendent for Instruction, the Director of Curriculum and Staff Development and the Director of Research and Evaluation. The other two were the Superintendent and the Support Services Coordinator. Each one of the officials was a member of a different sub-group of the five designated areas on the council.

Parents, Community and Other Citizens - These persons played an important role as supporters of the students involved in the program. Their understanding, helpful suggestions, and moral backing helped to create an environment that aided the researchers in the pursuit of their project objectives.

The Selected "Talented" Students - Without these participants, there could have been no program, successful or otherwise; the students themselves were the ultimate users and beneficiaries of the program. They designed the research they wished to develop and followed the design in undertaking their self-selected experiences. The program put considerable faith in student initiative, creativity, and responsibility; the faith was apparently justified.

D. AN ANALYSIS OF DISSEMINATION AND UTILIZATION FACTORS

In Planning for Innovation (1969), Havelock presents seven unifying themes or factors that generally account for most dissemination and utilization phenomena: linkage, structure, openness, capacity, reward, proximity, and synergy. Recently, he has added three other factors: homophily, energy, and empathy. These ten factors can be distributed over the four major communication process elements (resource system, user system, message, and medium). We will present a discussion of each factor with respect to the communication process elements.

HOMOPHILY

The two innovators were certainly different from the "talented" students in their language, age, and profession. However, their values and cultural milieu were shared, and, in this regard, the program they designed was shaped for the users. The program was not only written in language that was comprehensible to the target audience but also teachers, principals, and parents were available to help the student conceptualize what he wanted to do and how he might accomplish his task.

As homophily applied to the users, the "talented" students, there was a great deal of similarity between them in age, grade level, language, culture, and, most importantly, pursuit of a personal interest. Certainly, the fact that they thought the program was worth their time and energy was a belief held by all students participating.

EMPATHY

One of the very key factors in why the program designed was suitable for the intended audience, the "talented" student, is explained by the fact that both of the innovators had been principals of elementary schools and knew the age group and capabilities of their target audience. Also, it was the *decision* of these two men to focus the program on fifth through eighth grade students.

LINKAGE

The two innovators provided the main thrust to the linkage that operated within the internal resources and between the internal and external resources. Their development of a coordinated and integrated series of relationships between these people and systems was fostered mainly through the advocacy role which they played in the innovation. The students whose projects were funded by the review council were linked up with members of one of the five sub-groups of the council, as well as with a sponsor for their project. The sponsor himself was linked to the school principal, who in turn was linked to the innovators. The sponsor's job was to facilitate the development of the student's project and this included helping the student make use of helpful resource people and materials.

The relevance of the message was particularly apt as alluded to under "empathy." Before this program, the "talented" students were without any special learning experiences which could speak to their needs for increased and more self-invested learning experiences. The program spoke not only to these needs, but also to the student's individual capabilities within the needs.

The media used in the effort to get their message out to the students were both familiar and compatible with the experience of the people through whom the messages were conveyed. Written correspondence, the local newspaper, word of mouth, telephone calls, and other forms of dialogue were employed in the process.

PROXIMITY

The students' proximity to resources and resource people played a large role in their effective use of these people and resources, even when the linkage was established through a third party, i.e., through a member of the review council, of the county school system, the sponsor, a parent, friend's parent, or other community citizen.

Students whose projects were funded were aware that other students had projects funded and that each project was different from any other project. In addition, the students who were engaged in the program were not singled out in their classrooms or schools. As a result, they were able to avoid the peer pressures that might have occurred from such undue attention.

Finally, there can be no question that the proximity of the students to the program was increased through the various media employed in the change effort. The interpersonal contact on which so much of the project's development depended was a critical factor in the successful implementation of this system-wide innovation.

STRUCTURE

Having designed the innovation program, the innovators created the structure by which they could implement the program. The division of labor spread thinner when the project review council divided itself into five sub-groups, each one of which had a member of the school system in it. Thus, five men shared the task of overseeing the actual implementation of the funded projects. To this point in time, the two innovators shared the task of installing the innovation. Secondly, the view of the client system was coherent by virtue of the criteria laid out in the program proposal for selecting talented students. There was no mistake on who was eligible for participation in the project. Finally, the proposal also spelled out a logical time sequence for the implementation of the several phases of the innovation.

The design used in communicating the message to the resource and user systems followed a loose pyramidal pattern: the two innovators informed the school principals, who informed the teachers and counselors, who informed the student; and so on.

How usable the program was depended almost entirely upon the project which each student designed and submitted as a proposal to the project review council. One of the criteria used by this council in selecting projects to be funded was an evaluation of the content, including the objective, the plan, and the output (product, result, dissemination) of the proposed project.

Students were supported in every way by the school system and by people affiliated with the program. They had outlined their proposals for the review council; so, with the sponsor, they worked to implement this outline and to pursue the experiences in which they expressed an interest.

CAPACITY

Without question, the Talented Student Program made use of the full capacity of people within the county school system, talented students within the school system, outstanding professionals in a variety of endeavors, and the contacts or "linkage" these people had with other people and systems. The full power, education, intelligence and prestige of those involved in the installation of the innovation were brought to bear during the implementation of the funded research programs. Probably, the most important ingredient in the project was allowing for the talented student to make greater and farther reaching use of his mind and the resources available to him, and with complete school system backing, than at any other time in the past.

The ability of the student to invest his own internal resources and to feel that he had the capacity to complete the project was evident in most of the funded projects. Also, the program's allowing the student to make greater, unbridled use of his intelligence and the people and materials he would need expressed a certain amount of confidence in his ability to succeed under these radically changed learning conditions.

The "cost" to the innovators and the school system was essentially just "overhead" (for the innovators and those they used as resources) during the installation of the program. Once the program became operational, the only additional costs were the already-allocated funds for the projects, which included paying substitute teachers for a maximum of two days for each teacher serving as a project sponsor.

The capacity of the medium should be viewed as low or medium. The information was publicized in memorandum form, rather unstimulating, and itself did not have a very great potential to influence the potential user. Yet, through the synergy of repeated messages, e.g., from the principals and teachers following up on initial contacts, the medium did gain in its capacity to inform and interest the target audience.

OPENNESS

Openness in the resource system was strikingly evident in that the innovators designed a program that was a complement to, and outside of, the formal mode of classroom learning. The design of the program allowed students to work totally outside of the classroom experience. And since the projects were the product of the thinking of the "talented" students, they were completely adjustable and adaptable to student needs.

Finally, openness to a new educational experience, to new ways of doing things, very likely with different people, to take the risk of following through to completion on an idea of one's own, all combined to make over eighty percent of the funded projects successful, i.e., complete.

REWARD

Reward for the developers derived from their satisfaction in creating a program that allowed the eligible students to learn without the "shackles" of the formal system upon them; reward for the system, in the program's being refunded for the 1972-73 academic year. For the review council, reward lay in the opportunity to perform a service of possible benefit to members of the county and in their creation of the opportunity to spark an otherwise dormant interest in acknowledged talented students. Surely, the potential future profit from the experiences the students undertook played no small part, on an ideal level.

The benefits for the students doing a project far outweighed the costs. Costs would include deciding on a project to develop, writing it up as a proposal, and alloting time, energy, and money for the implementation of the project. Benefits would include being given the support, financial and personal, to pursue something of great interest to the student at a timely moment. There would also be the opportunities to meet and work with people similarly involved in the particular area of interest, to travel if the project called for it, to recognize that learning is not a unique function of the school setting, and to gain the personal satisfaction that derives from doing something for and by oneself.

The media used to transmit the message were of proven value, if only because they have been used traditionally--written memoranda, word of mouth, and face to face communication (e.g., group meetings, individual meetings).

Perhaps the most important reward was that the program filled a void in the learning opportunities offered to the "talented" students. No programs were responsive to the needs of the "talented" students in this fashion before the 1971 school year.

ENERGY

Energy was, perhaps, best operative in the persistence with which the two innovators advocated and engineered the program. Coupled with their persistence was their emphasis to the users that the school system was 100% behind them in anything they chose to pursue.

Great amounts of time, effort, and persistence were invested by the students in designing and developing their proposals. That the innovators stressed the extreme importance of self-help by the students was a key to the success of the student-run research projects.

The various media utilized by the innovators to inform the principals, teachers, counselors, students, parents, and community citizens about the project (the message) represent, minimally, a concerted drive to coordinate all these people in an effort to install the program successfully.

SYNERGY

The use of formal opinion leaders within the schools, teachers and principals, was helpful in getting the message across to the students, as was the correspondence with parents. Making use of these different people, representing different roles and several levels of influence, constituted an orchestrated program designed to reach as many people as possible and in a way that spoke to them as individuals.

Parents, the local newspaper, and repeated contact between eligible students and their teachers (principals or counselors) also helped to insure that the students understood the opportunity that was being offered them.

Finally, the combination of media used to get the message out and the interplay of these media, the "dovetailing" of one medium on another, was critical to the "talented" students' acceptance and operational understanding of the program. Also, the persistence by the innovators in their advocacy of the innovation played no small role in the creation of this synergy.

APPENDIX A

A Comparison of Tables from the Mailed Questionnaire and Interview Schedule

4a. INNOVATION PROCEDURES

	Mailed Questionnaire EMPHASIS					On-Site Questionnaire EMPHASIS					Mean of the two Questionnaires
	Extreme 5	Major 4	Moderate 3	Slight 2	None 1	Extreme 5	Major 4	Moderate 3	Slight 2	None 1	
a. Systematic evaluation			X						X		2.5
b. Solid research base			X						X		2.5
c. Systematic planning	X						X				4.5
d. Adequate definition of objectives		X						X			3.5
e. Selecting a competent staff to implement change	X						X				4.5
f. Starting out with adequate financial resources to do the job	X							X			4
g. Utilizing a number of different media to get the new ideas across					X			X			2
h. Persistence by those who advocate the innovation	X					X					5
i. Maximizing chances of participation by many groups	X						X				4.5
j. Stressing self-help by the users of the innovation	X					X					5
k. Adequate diagnosis of the real educational need		X							X		3
l. Providing a climate conducive to sharing ideas	X						X				4.5
m. Providing a climate conducive to risk-taking	X						X				4.5
n. Creating awareness of the need for change	X							X			4
o. Creating an awareness of alternative solutions	X								X		3.5
p. Confrontation of differences	X								X		3.5
q. Resolution of interpersonal conflicts	X									X	3
r. Involvement of informal leaders of opinion inside the schools					X	X					3
s. Participation by key community leaders	X					X					5
t. Taking advantage of crisis situations			X							X	2
u. Finding shared values as a basis for working			X						X		2.5
Other procedures used (specify):											

With innovation procedures, there are three areas that were deemed significant and, in fact received "extreme" emphasis during the process of change: (1) persistence by those who advocated the innovation; (2) stressing self-help by the users of the innovation (the students); and (3) participation by key community leaders (certainly, as members of the project review council). In addition, several procedures given "major" to "extreme" emphasis were: systematic planning; selection of a competent staff for implementation; providing maximal chance for participation by many groups; providing a climate both conducive to sharing ideas and to risk-taking. In contrast to the innovation barriers, the innovation procedures were more highly rated as factors involved (in this instance, positively) in the change process.

3e. BARRIERS TO THIS INNOVATION
Here is a list of possible barriers to innovation. Would you please check off which ones were important for this innovation.

	Mailed Questionnaire IMPORTANCE as a barrier					On-Site Questionnaire IMPORTANCE as a barrier					Mean of the two Questionna
	Extreme 5	Major 4	Moderate 3	Slight 2	None 1	Extreme 5	Major 4	Moderate 3	Slight 2	None 1	
a. Lack of adequate contacts with outside resource groups (e.g., universities, labs, consultants, etc.)					X					X	1
b. Lack of communication among the staff			X						X		2.5
c. Lack of communication between staff and students			X					X			3
d. Confusion among staff about the purpose of the innovation			X				X				3.5
e. Staff's lack of precise information about the innovation				X			X				3
f. Disorganization of the planning and implementation efforts					X				X		1.5
g. Unwillingness of resource groups to help us revise or adapt					X				X		1.5
h. Rigidity of school system structure and bureaucracy			X					X			3
i. Unwillingness of teachers and other school personnel to change or listen to new ideas			X				X				3.5
j. Shortage of funds allocated for the innovation					X					X	1
k. Shortage of qualified personnel				X					X		2
l. Feeling by teachers and staff that the innovation would have little benefit for them			X				X				3.5
m. Frustration and difficulty encountered by teachers and/or relevant staff in trying to adopt				X				X			2.5
n. Frustration and difficulty encountered by students during the adoption process				X				X			2.5
o. Lack of contact with other school systems who had considered the same innovation					X					X	1
p. Lack of coordination and teamwork within the school system				X					X		2
q. Absence of a concerted campaign to put the new ideas across					X					X	1
r. Inadequacy of school plant, facilities, equipment, or supplies					X					X	1
Other barriers (specify):											

Admitting that the two questionnaires allow for a very rough approximation of important barriers, three barriers to the Talented Student Program are worth noting: (1) confusion among the staff about the innovation's purpose; (2) unwillingness of teachers and school personnel to change or listen to new ideas; and (3) feeling by teachers and staff that the innovation would have little benefit for them. Nevertheless, none of the three barriers was seen as being of "extreme" importance. To the contrary, their mean rating shows them to have been considered of less than "major" importance.

3f. Here is a list of possible resources and sources of information and support. Would you tell me which of these, if any, played a role in bringing about this innovation?

Mailed Questionnaire

INTERNAL RESOURCES	(6) Not Available	FREQUENCY OF USE IF AVAILABLE				
		(5) Very Freq.	(4) Frequently	(3) Occasionally	(2) Very Infreq.	(1) Never
a. Research and Evaluation Office or Staff				X		
b. In-Service Training Program			X			
c. Library Facilities			X			
d. Media Specialists or Centers			X			
Curriculum Supervisors	X					
f. Teacher Discussions & Idea Presentations			X			
g. Student Discussions & Idea Presentations				X		
h. Other (specify)						

EXTERNAL RESOURCES	(6) Not Available	FREQUENCY OF USE IF AVAILABLE				
		(5) Very Freq.	(4) Frequently	(3) Occasionally	(2) Very Infreq.	(1) Never
i. ERIC				X		
j. USOE Supported Regional Educational Laboratories					X	
k. ESEA Title I Projects or Services		X				
l. ESEA Title III Projects or Services		X				
m. Other Federally Funded Programs and Services		X				
n. State Education Agency Services		X				
o. Foundations and Other Private Programs			X			
p. Universities and Colleges			X			
q. Professional Associations				X		
r. Other (specify)						

On-Site Questionnaire

INTERNAL RESOURCES	(6) Not Available	FREQUENCY OF USE IF AVAILABLE				
		(5) Very Freq.	(4) Frequently	(3) Occasionally	(2) Very Infreq.	(1) Never
a. Research and Evaluation Office or Staff		X				
b. In-Service Training Program						X
c. Library Facilities			X			
d. Media Specialists or Centers			X			
e. Curriculum Supervisors			X			
f. Teacher Discussions & Idea Presentations					X	
g. Student Discussions & Idea Presentations					X	
h. Other (specify)						

EXTERNAL RESOURCES	(6) Not Available	FREQUENCY OF USE IF AVAILABLE				
		(5) Very Freq.	(4) Frequently	(3) Occasionally	(2) Very Infreq.	(1) Never
i. ERIC			X			
j. USOE Supported Regional Educational Laboratories				X		
k. ESEA Title I Projects or Services						X
l. ESEA Title III Projects or Services			X			
m. Other Federally Funded Programs and Services				X		
n. State Education Agency Services						X
o. Foundations and Other Private Programs						X
p. Universities and Colleges				X		
q. Professional Associations						X
r. Other (specify)						

A comparison between the two sets of resource tables is harder to make, since the two sets represent slightly different information. For the mailed questionnaire, the respondent was asked to check off those internal and external resources used for implementing innovations in the 1970-71 academic year. The responses for the interview schedule were directed specifically to those resources which played a role in the implementation of the Talented Student Program. Minimally, we can compare the relative use of resources; internal and external across forms. For example, the research and evaluation staff was used "very frequently" during the implementation of the Talented Student Program, yet, in the context of innovations that occurred during the full year, its frequency of use drops to "occasionally."

	Age	Ethnic Group	Socio-Econ.	Attitude to this Innovation	Attitude to Innovations in General	Basis of Motivation	Educational Values	Frequency of contacts with			Other Noteworthy Characteristic
								Students	Inside Resources	Outside Resources	
KEY PERSONS											
1. Board Member	40's	W	U	⊕ N -	⊕ N -	Singles out excellence	Rewards excellence	Nominal	High	Nominal	Founding Fath
2. Ass't. Supt./Instr.	40's	W	UM	⊕ N -	⊕ N -	Dedicated to a strong instr. program	Education - A great vision	Minimal	High	Small	Commitment to unified schoo system
3. Dir. of Curriculum	30's	W	UM	⊕ N -	⊕ N -	Committed to individual differences	Educ.-Creation of zest for learning	High	High	Medium	Took ball and ran
4. Dir. of Research	30's	W	UM	⊕ N -	⊕ N -	Creation of prog.realistic for stud.	Educ.- For world of work, life	High	High	Medium	Same as 3
5. Support Services Coordinator	30's	W	UM	⊕ N -	⊕ N -	Commitment tc individuals as individ.	Similar to 3,4	High	High	Nominal	
KEY GROUPS											
1. Finance Dept.				⊕ N -	+ N -	Necessity; had to comply w/board mem.					More flexible than had thought
2. Project Review Council				⊕ N -	+ N -	Strong commitment to goal of proj.					Enthusiastic

APPENDIX B

A Program Proposal for Exceptionally Talented Students

A
Program Proposal
for
Exceptionally Talented
Students

SEAL OF THE SCHOOL BOARD OF BREVARD COUNTY FLA

presented by:
D. Weizenecker
D. Owens
R. Wetherell
on
30 June 1971

CURRENT STATUS

Numerous specific efforts are made by schools and teachers to provide for the talented student in Brevard schools. Special academic experiences are generally provided for students in the secondary schools that have qualified as "phase 5" in the Stanford Achievement tests. Courses for high phase students generally encompass more difficult material, a greater amount of material, and opportunity for individual study and research. While no specific evaluation has been made, it is generally felt by most teachers, parents, and administration that the high phase courses are effective in providing extra challenge and opportunity for the academically talented students. High school students also generally have more opportunity to take part in learning experiences outside the school setting through work experience and field trips.

Various special programs in certain academic areas (i.e. Reading) provide extra challenge and opportunity for the intermediate and junior high school students in Brevard County schools. Because these students are in the transitional stages of adolescence more than most other ages, their interests, abilities, and curiosities vary to a great extent. Many of these students are in the process of maturing; they are intrigued by the new world in which they find themselves, and are still uncertain what "niche" they will want to carve for themselves. It is felt that programs to serve their needs should be exploratory; provide opportunity for individual investigation, and be of nature that content and depth can be easily altered to suit the learner.

PROPOSAL

It is proposed that a unique program be initiated in Brevard County to offer learning challenge and opportunity to high academic ability students in the fifth, sixth, seventh, and eighth years of school. The program offers a structure that can open new vistas to high ability students without defining specific areas, locations, or personnel that will be utilized. Thus each program that is instituted will be unique, planned by the learner in cooperation with his teacher and parents, and will make use of whatever personnel and material necessary to accomplish the learning objectives. It is anticipated that certain programs would embody experiences that could be used for credit toward graduation under guidelines now being considered by the state accreditation department.

The following description outlines the basic intent of the Proposal. Several talented students in a county school becomes very interested in trajectory. They have gone target shooting and hunting numerous times and have observed that it is necessary to make minor adjustments in aiming for distance from a target. They also have learned to "lead" a moving target. In a science class and through discussion with their teacher, it was learned that gravity affects the bullet and causes a curved trajectory-- this in turn is responsible for the adjustments they make in target practice.

The trajectory patterns fascinate these students. They are curious to know more about this phenomena, they write a brief outline indicating that they would like to study the effects of gravity on moving objects and submit this to their teacher. The outline would follow a form that was given to them by their teacher after he became aware of their interests. The students would be asked to establish objectives. Describe what they would like to do to accomplish the objectives, and to indicate how they could tell if the objectives had been accomplished.

The teacher in turn is impressed with his students' interest. He reads the outline. Determines that the students meet the criteria of exceptional talented students--he records the criteria for this decision on a form along with other background information on the students and submits this data to a project review council.

The project review council would be composed of outstanding leaders from many sectors of Brevard County. Manufacturing, banking, service, professional, and governmental sectors would be represented. The council would receive the outline of the students interested in trajectory as well as project outlines in a wide range of interests from other exceptional students or groups of students throughout the county. The council would consider the merits of all the projects submitted on a monthly basis. It would be empowered to select projects it felt would provide unique and rewarding learning experiences and commit a certain amount of money from a fund set aside by the school board to carrying out these projects. It is anticipated that the business contacts and acquaintances of the council members would often prove effective in finding the proper person or place to help carry selected projects to completion.

In the case of the students and project outlined earlier, it is assumed that the council approved the project. One of the council members might know an engineer working for a sub-contractor on the cape that had expertice in this area, contacts would be made with the sub contractor and engineer. Next, details would be worked out with the school principal and the students' parents.

As a result of the students' interests and initiation in recording and submitting their ideas they might be able to spend one half day for two weeks working with the engineer on the cape in learning the physics and math connected with the trajectory, and in plotting trajectory paths of everything from baseballs to missles.

Many other projects in wider and narrower scope would be considered by the council. Some would involve expenditures for special equipment, travel, or supplemental pay for teachers to assist with projects. Although criteria for eligibility have not been determined, an example of possible cost will be considered. If criteria would render the top five per cent of the population of grades five, six, seven, and eight eligible to submit proposals, then a total of 1000 students would be eligible to submit proposals. It is pointed out that the wide diversity of proposals would make individual costs fluctuate greatly, thus the number to be funded by the amount set aside would be subject to considerable variation.

Some projects could possibly send students to visit governmental bodies in session, others could explore ecology problems, others might explore the duties and responsibilities of a professional pilot, while still others might learn of selected procedures in a medical laboratory or how checking accounts are handled in a bank. As stated earlier, there is no limit to the scope of interests that could be encompassed in projects selected by the coundil.

Such a program would be unique in several ways. It would involve community leaders in the educational process. It would provide learning experiences and settings that could never be duplicated in the classroom. The experience and knowledge gained by the students would undoubtedly stand out as one of the unique experiences of their school career. The program would be completely flexible to meet almost any worthwhile project submitted.

The hypothetical example used in describing the proposed program covers the overall structure thus certain specific aspects that would need to be defined. The following list enumerates these details and suggests a possible timetable for their completion should the program be adopted:

1. Establish funds for the council to use and guidelines for selecting projects. Sept. 1971
2. Define academic standards to determine which talented students could submit projects. Oct. 1971

3. Determine the sectors to be represented on the council and recruit community leaders to fill the posts. Nov. 1971
4. Determine procedures and channels for submitting projects. Nov. 1971
5. Acquaint students, parents, teachers, and administrators with the program. Dec. 1971
6. Begin program. Jan. 1972

This suggested program is a bold departure from the normal school curricular offering. It simply provides a structure that can cater to interests and creates a unique learning experience using not only the school's, but the resources of the community. The program involves the community in the educational process while still considering the professional educator as a resource and consultant. Such a viable program it is felt, will enable our talented students to experience an unlimited variety of unique learning experiences, centered on their interests and needs.

CHAPTER FIVE

IMPLEMENTATION OF THE MIDDLE SCHOOL CONCEPT

Marion County, Florida

[Case Study drafted by Maren (Wilhelmy) Naumann-Etienne. Assisted by Todd Areson.]

INTRODUCTION

The innovation process surrounding the implementation of the middle school concept in Marion County, Florida, was studied during an intensive two-day visit in June, 1972. Two project members were permitted to conduct interviews with participants at all levels of the educational community. Previous data had been obtained by means of a mailed questionnaire. The on-site visit attempted to supplement this information in two ways. Persons who were actively engaged in and responsible for the innovation were given Interview Schedule I, which contains quantitative measurements. Persons less centrally involved in the change process were administered the shorter, more qualitatively oriented Interview Schedule II. The information obtained from this latter instrument was integrated into the text without any attempt at quantification.

A draft of the report was submitted for review to both the Director of Curriculum and Instruction and the Middle School Coordinator. The project members wish to express their gratitude to them for the time and energy spent on suggestions for this case study, as well as for the warm welcome we received from them and other members of the educational and general community during our stay.

CASE STUDY

Marion County, Florida

I. THE INNOVATION

A. OVERVIEW

The innovation that we are going to examine in this case study consisted primarily of a change in grade organization. From the former 1-6, 7-9 and 10-12 grade plan, the system moved into the adoption of a K-5, 6-8 and 9-12 structure. In the course of this event, a fairly recent administrative unit, the middle school, was developed. Once the middle school grade structure, commonly agreed to include the sixth, seventh, and eight grade, was accepted, other structural changes fell into place: the ninth grade was added to the senior high schools, whereas the elementary schools received the additional kindergarten grade.

Although it would have been interesting to study the results of these grade additions at the elementary and secondary level, our study team did not look into the elementary or senior high schools of the system. Instead, we focused on the middle schools as it was from here that the reorganization of the total system had been initiated. Concomitant with this reorganization, changes took place in administration and teaching practices that resulted from a new philosophy of learning and teaching. It was hoped that, similar to a ripple effect, the changes in creating the middle schools would also affect the elementary and secondary levels in subsequent years.

In substance, the reorganization entailed four significant innovations: 1) the 4-man house concept, 2) the small group guidance periods, 3) common planning time for house members each day, and 4) the inclusion of pre-vocational offerings for all students.

Under the 4-man house concept, four different subject matter teachers are responsible for the teaching of 120-140 students on one "house." To accomplish such a team job, a block of time is set aside each day for planning. Teachers also work with small groups of six to eight students on academic or personal problems, according to each group's needs. The organizational format for such learning is the small group guidance session, in which each student participates once a week. The purpose of the guidance session leads us to the genral question of the rationale behind the middle school concept.

B. RATIONALE

The middle school is seen by its proponents as a means to accommodate two findings about early adolescence which recent psychological research repeatedly has pointed out:

1) that the social, physical and emotional maturity of today's sixth graders more closely resembles that of a typical junior high student; and that, similarly, today's ninth graders fit better into the senior high school.

2) that the early adolescent is in a period of transition from late childhood to beginning adulthood which requires special adjustments in the school situation.

Both findings have rendered the commonly practiced junior high organization and curriculum obsolete, in this system's view. The accelerated development of both sixth and ninth graders suggests the need to shift the old junior high grade organization one grade downward, thus including the sixth and excluding the ninth grade, to what now is termed "middle school." This shift downward is also reflected in the curriculum. Whereas the junior high school was primarily oriented towards the transition of its graduates into the senior high school, the new middle school intends to extend that function, as well as other important functions.[1] Middle school students are not seen as "junior" high school students, with the emphasis clearly directed toward becoming a "senior" high school student. Instead, the middle school tries to look at its students and their problems as they present themselves now.

These problems are both academic and emotional. In the area of academic demands, it will be increasingly expected that the student take responsibility for self-directed learning. One factor to consider is that subject matter will be presented in a fashion that requires specialized study skills. Above all, the adolescent has to learn to cope with peer group and adult relationships, as well as making decisions about his future life orientation and value positions. What is the best approach to preparing for such demands? The middle school offers two answers: the house concept and the small guidance group.

C. COMPONENTS OF THE INNOVATION: THE HOUSE CONCEPT AND THE SMALL GUIDANCE GROUP

1. *The House Concept*. Four subject matter teachers, on the basis of their specialties, join together as a team. They form the supervisory personnel for a "house," usually the equivalent of 4 classes, or 120-140 students. The teaching team uses an inter-disciplinary approach to buttress subject matter areas and to decompartmentalize knowledge. By doing so, students are helped to see relationships between skills and concepts learned in one situation as they apply to other situations. The emphasis is shifted from disciplinary mastery to at least an equal or major emphasis on "learning to learn."

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[1] As the Middle School Coordinator stated, "...the middle school 'function' should be identified as providing a transitional period during which the 'school situation' is adjusted to accommodate the period of transience. Junior high school - subject oriented, textbook pace, etc. Middle school - pupil oriented, learning rate governed by intellectual growth, concern for emotional adjustment."

Students who experience difficulty with basic skills, like reading and math, have an opportunity to work in these areas in small tutorial groups with a "house" teacher. Teachers thus have a dual role: they are responsible for large group instruction in their particular discipline (English, Math, Science, Social Studies), and they hold small tutorial and guidance sessions.

2. *The Small Guidance Group.* Thirty students are generally assigned to each homebase teacher within the house. In order to accommodate for groups of only 6-8 to meet at one time, each day a different group consisting of one-fifth of the homeroom group meets with the homebase teacher. Individualized remedial instruction in the basic skill areas may be the program for some students. Others may need help with behaviora problems. Still others "just need to talk." Many of the teachers, either individually or as a team, will involve the students in activities such as value clarification, decision making, and the like.[2] The range of possibilities for the small guidance group is almost limitless. In one of the schools we visited, a group of homeroom teachers took their "house," a total of more than 100 students, to the public library. For many of the black students with a predominantly rural background, this was their first encounter with a library. Other teachers reported that they had taken their groups home in their cars. Again, this was a novel experience for those youngsters who had never visited outside their neighborhoods.

In the small guidance sessions, the slow process of re-education is allowed to take place. The term "re-education" applies in this case to both teachers and students. Teachers learn to look closely at their students. They have to develop programs that suit their individual groups. They learn to take their students' concerns as the prime source for curricular planning. Since the small guidance sessions allow for flexibility, new materials may be tested out that have not been used before in the old junior high situation. We saw comic books, magazines and games on the shelves of classrooms at Howard Middle School (that this school is an unique example will be explained later).

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[2] Per comments of the Middle School Coordinator, March, 1973.

D. CONSEQUENCES

This freedom to experiment creates excitement among the staff. The four teachers whom we observed during their planning session seemed to abound with ideas which they gladly shared with each other. For these teachers, it is a learning experience of a novel sort to come to grips with a lower-class culture, the values and norms of which have previously met with so much misunderstanding. As a consequence, a new teaching philosophy is emerging among the staff that is characterized by its concern for the individual. In its statement of school philosophy, Howard Middle School emphasizes its positive approach to teaching and learning, placing individual achievement and progress over the threat of low marks. A general tone of "humaneness" pervaded this school, which tone has had its effect upon the students.

Students also had a need for "re-education." Attitudes of hostility towards a white and middle-class staff had to be overcome so that trust could be built within the houses. Again, the small guidance group was instrumental for the purpose. Truancy and vandalism, considerable problems under the old situation, have decreased markedly since the inception of the middle school program, a statistic educators cited first when asked about the program's effectiveness.

From the discussion presented so far, it is clear that the introduction of the middle school concept in Marion County did not come about only to accommodate the needs of its early matured youngsters. There were other factors involved, too, that prompted the administration to stand behind this innovation.

In order to get at these factors, we need to look at the general structure which surrounds the Marion County School System.

II. THE SYSTEM

A. DEMOGRAPHIC DATA

There has been remarkable manufacturing and industrial growth in Marion County during the last ten years. As a result, the population has increased rapidly from 51,616 to 69,030 persons, which represents a 34% increase in population (1970 census). Of these, 40.4% are urban versus 59.6% rural. The distribution of whites versus non-whites compares in a 2.5:1 ratio.

Public school enrollment has increased by 61% in the last ten years. Figures from 1970 show a total enrollment of 17,652 students. Current per-pupil expenditure is $786.

The city of Ocala, alone, experienced an increase in population of 66%. From the 1960 census of 13,598 persons, it has grown to a present citizenship of 22,583. Within the city's limits reside 17,679 whites and 4,867 non-whites. Roughly, every fourth resident in Ocala is non-white.

Ocala is the school system's administrative center for Marion County. Decisions made by the school board in the city affect all of the county, which includes a total area of 1,875 square miles.

B. THE SITUATION OF THE SCHOOLS

Prior to the initiation of the system and county-wide reorganization of the Marion County schools, the situation for black students was considerably less advantageous than for their white counterparts. High schools were segregated de facto by race, and the white schools received a disproportionate share of funds. The black high schools, in particular, were overcrowded. Yet all high schools needed some degree of modernization to their facilities. An upgrading, especially of the natural science curriculum, became essential. Due to the absence of adequate laboratories, seniors were often unable to perform experiments or conduct independent inquiries. Aside from such shortcomings evident in all buildings, the teaching staff was unequally distributed, racially, among the schools. Black teachers taught in the black schools, whereas the white schools employed a white faculty. This distribution created tensions within the system's teaching staff, as well as among the members of the community. Early efforts at changing this status-quo were met with resistance, as the community was dominated by powerful conservative forces.

In addition, property was not assessed adequately, and taxpayers were protected from paying fully assessed taxes. It was the schools which had to carry the burden of such under-assessment. As a result, both a shortage of funds and overcrowded and poorly equipped facilities were a reality. Two serious needs, to increase the educational opportunities of blacks, and to bring its schools up to present-day educational standards, stood out as pressing issues for administrative action at the beginning of the innovation process.

III. THE INNOVATION PROCESS: HOW THE MIDDLE SCHOOL CONCEPT CAME TO BE ADOPTED

A. PREPARATION (1967-1968)

During the summer of 1967, the Marion County Superintendent contacted leading scholars at the University of Florida who had expertise in the then-emerging middle school concept. He received theoretical input about middle schools as such, as well as some understanding of the change potential of this new educational unit.

Early in the fall of the 1967-68 school year, he planted the seed. Meetings were held with all of the city school principals to assess what their reactions would be if the middle school concept were adopted in Ocala. The county administrative staff was advised to hold similar discussions with all principals in the northern, central and southern regions of Marion County. Some of these city and county-wide meetings were attended by scholars from the University of Florida, who provided theoretical background information and encouragement.

As the principals discussed the new ideas with their staff in their own buildings, reactions became divided. Benefits and pay-offs did not appear self-evident to many of the system's teachers. This reaction was called back to the principals' meetings with the Superintendent. The Superintendent's initial enthusiasm received a severe blow, and the idea gradually died down. Shortly thereafter, he resigned to take a position with the State Department of Education. Among the county administrative staff, there was one particularly able proponent of the middle school idea. This man was supported for the office of Superintendent by two School Board advocates of the innovation, and he was appointed by the Governor to fill the existing vacancy. He took office in the fall of 1968.

B. A CRUCIAL YEAR (1968-69)

With the new Superintendent's arrival, the reorganization plan for the county's schools received a vigorous revival. The Superintendent brought with him a new Director of Curriculum Services who had done advanced graduate work at the University of Florida. His educational background added depth to the Superintendent's already demonstrated positive stance on the middle school. The system had, at this point, a team of men who were strong in two important ingredients of an innovation effort: resourcefulness and motivation. As it turned out, this team was a key to the innovation.

The newly appointed Director of Curriculum Services previously had held a principalship in the county. He thus had gained credibility among his peers while he held a role similar to their own. Now, when he advocated the move into the middle school concept, his credibility served him well. Within months, the network was laid to make the decisive move: the School Board voted to adopt a total reorganization plan for Marion County in the form of the middle school. The fact that two School Board members were strong proponents of the middle school concept from the beginning was crucial in the ensuing Board meeting.

On January 3, 1969, the Superintendent recommended to the School Board a grade structure change. The recommendation amounted to a change from the 6-3-3 organization, meaning 6 years of elementary, 3 years of junior high, and 3 years of senior high school, to a 6-3-4 plan. Under this plan, 6 years of elementary school would encompass kindergarten through fifth grade (K-5). The middle school would enroll three grades (6-8), whereas the senior high school would include 4 grades (9-12). This recommendation was adopted by the Board in a narrow 3-2 vote.

With its approval of the recommendation, the Board had committed itself to the following program:

-the establishment of a kindergarten program

-the development and implementation of the middle school concept

-a new State Survey report, based on the new grade structure

-the development of a detailed description as to how this grade structure could be carried out in the facilities available, and what future facilities would be necessary.

A major step had been accomplished. The Board now authorized the Superintendent to develop a detailed plan of operations for the new grade structure. Two incidents that helped to precipitate the development of the planned program of changes occurred in the school year: a teachers' walk-out and the creation of a new fund through the State Legislature, the "Education Improvement Expense."

The Education Improvement Expense

In the fall of 1968, the State of Florida created a new fund which could be used as "seed money" for major innovations; it was not categorical funding. Marion County received such a grant, which allocated $1,720 per teacher-unit in "real" money. For the first time ever, this money freed up the administration to plan a comprehensive program. One of the first steps taken by the Superintendent was to hire 200 teachers aides, in response to one of the Marion Education Association's priorities of increasing teachers' time to teach. Also, all teachers received a salary increase of between $100 and $200. Later in the year, some of the funds were used to hire a new staff member who was to coordinate and plan a demonstration model of the middle school concept.

By the end of the 1968-1969 school year, a logical plan had been developed that tried to tie together all the various parts of the comprehensive reorganization plan. It tried to answer the question of the building program with a five-year master plan. It attempted to fit these building plans to the needs of the children and thus led into a detailed instructional program specifying the middle school philosophy and practice. For the first time in the system's history, a comprehensive effort had been made to link architectural facilities with a teaching philosophy and an instructional program. The administrative unit that tied this package together was the middle school. The development of a usable model of the middle school concept now depended upon the adoption or rejection of the innovation among its primary "users," the principals and teachers.

The Teachers Walk-Out

The teachers' walk-out occurred as a reaction to the situation described earlier under "Situation of the Schools." Teachers were annoyed with their tight building space, the outmoded facilities, the desegregation practice, and the poor financing resulting from inadequate assessment of property.

Many of these issues were resolved by the new administration within the next two years. The space problem was resolved by adding wings to already existing high school buildings and by conceiving of a new middle school which was to house its first generation of students in portables, while classrooms were being built. Modernization was achieved by incorporating a more appropriate science curriculum, as well as many electives (art, music, industrial arts, etc.).

De facto segregation was resolved primarily through a rezoning of the district. The old north-south school zoning line that had divided whites from blacks was exchanged for a line in the east-west direction, thus bringing together the children of both poverty and suburban homes. In addition, dysfunctional high schools with small graduating classes were closed out or converted into middle schools. An example of such a transformation is the Howard Middle School, a previously all-black high school, which now has an enrollment of roughly 78% black and 22% white students. The present faculty of 2/3 white and 1/3 black teachers volunteered for this assignment.

The money for these changes was made possible by updating state funding for capital outlay and by an assessment policy of a 100% valuation of property at the county level. However, the bulk of the new money came from another source, the State of Florida's Education Improvement Expense (EIE).

C. THE YEAR OF TRIAL (1969-1970)

With some of the funds provided by the EIE, a new staff role was created in the County Administration office; this person was to promote the middle school idea and begin its implementation. The man who filled this new role, identified as the "Middle School Coordinator," came from Naples, Florida, where he had previously headed a middle school.

In the fall of 1969, the previously all-black Belleview-Santos School, grades 1-12, in the county's southern, rural region was selected as the site for a first trial and demonstration. It was planned that within two years, all of the county's schools that were in the middle school configuration would be operating as middle schools, on the basis of the experiences gained at Belleview-Santos in 1969-70.

However, from the beginning, the role of the Middle School Coordinator was not clearly defined for the people with whom he had to work. He worked out of the County Administration office directly with the principal and staff of the model school. Yet, there was also the Director of Curriculum Services, to whom the principal felt ultimately responsible. When there were conflicts between the Belleview-Santos principal and the Middle School Coordinator, it was not clear whose decisions would carry. As it happened, some of the model school's staff and the principal resisted the change efforts and appealed to the Director of Curriculum Services, whom they perceived to be the higher authority in the County Administration office. This circumventing of the Middle School Coordinator at points of conflict in the innovation process did ill service to the project.[3] It may be safely said that the demonstration at Belleview-Santos failed.[4] The main positive, lasting results were the so-called "UNIPACS," unit packages which the Middle School Coordinator developed around certain subject matter areas. The experience gained in these efforts at helping teachers to plan for individualized instruction also proved useful for future staff in-service training workshops.

Nevertheless, the Middle School Coordinator did adopt some well-accepted practices of an agent of change. He started a full-fledged promotion campaign to sell the middle school philosophy among its potential users. He made numerous radio appearances and gave talks before selected audiences of opinion leaders from the education profession. He identified five future middle schools for which he began to develop tailor-made transition plans, while at the same time working on the evolving model of Belleview-Santos.

A memo of February, 1970, reported that in spite of such efforts, the demonstration school was not moving. The change agent wanted "some teeth put into it." This additional pressure may have led to the ultimate failure of the plan. Two factors of different weight may have been involved: 1) the abolition of the Interscholastic Athletic Program, and 2) the differences in the training background of staff.

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[3] "In fact, it destroyed it in this school as a pilot," states the Middle School Coordinator.

[4] "There is no question about this - it is moving along as a grade 6, 7, 8 junior high school and today [March, 1973] the Curriculum Coordinator assigned to the Belleview-Santos School is meeting the same resistance." Comment made by the Middle School Coordinator in reviewing this text in March, 1973, for our final edition. "This school still retains a typical junior high school departmentalized schedule."

The Interscholastic Athletic Program

Instead of an Interscholastic Athletic Program, middle school spokesmen propose an Intramural Program instituted through the physical education program. They see in competitive sports, and especially in tackle football, a potential danger for the young 10-14 year old boys. They argue that at a time when a youngster's body grows up to five inches in a year, competitive games with their physical stress and emotional pressure do not seem a healthy practice. Another point cited against the Interscholastic Program is that cooperation rather than competition should be emphasized in the schools. A game that is ruled by a "win/lose" philosophy does not meet such educational objectives.

Regardless of such insights, however, communities regard the issue in a contrary manner. Football has always played a role in communities supporting their schools, especially financially. Thus, it is no wonder that the citizens in Marion County feared a decline of their high school team's competitiveness if young talent could not be recruited and trained at the middle school level. For fear of losing their financial support, some high school principals opposed the introduction of the intramural sports program, which would have allowed a wider participation of students, both boys and girls for the first time.

The Training Background of Staff

Another issue of controversy centered around the new skills demanded of staff in the middle schools. Junior high teachers, as a rule, are trained as secondary school teachers with a subject matter specialization. The new middle school, with its emphasis on team teaching, defies such specialization. Overlapping concepts rather than individual subjects are at the core of the middle school curriculum. For example, history is no longer taught by a sequence of events ordered only by time. Instead, a certain historical epoch may be selected for examination, into which science, math and language arts may feed additional viewpoints, thus helping the student to integrate a total learning experience.

Such teaching requires a certain amount of negotiation among all members of the teaching team. For some teachers, this means an end to their total control over what is taught in "their" classes. Personality also could have accounted for the fact that a number of junior high teachers looked askance at the middle school, wondering whether they would want to make the necessary adjustments.

On the other hand, the present sixth grade teachers who were hired to teach in the middle schools felt anxious, too. Their training usually had covered the basic social sciences, which would equip them well for conducting the small guidance groups. But they seldom had received preparation in their majors for teaching students beyond the sixth grade level. In the middle school, they would be required to prepare their instructional program for a higher grade level than they had taught before. Thus, these teachers may have felt they would not live up to their team partners, who came out of the "straight" sciences or language arts.

With the elimination of the sixth grade at the elementary level, there was a population of teachers who needed immediate placement. Openings were available in the middle school situation. As evident in the described differences in training, some teachers from both types of "feeder" schools were ambivalent about their new assignments.

These experiences with teacher resistance made it all the more important that teacher certification requirements for the middle school be defined. The development of interim guidelines for certification, therefore, became an issue in the following year.

D. REORDERING PRIORITIES (1970-1971)

In September, 1970, a two-day conference was held at Tampa, Florida, to discuss middle school teacher accreditation and certification standards. The conference, called by the Marion County Middle School Coordinator, was attended by representatives from the Florida State Department of Education, county administrators, University professors, and representatives from different schools and school systems. The topic thus received state-wide attention.

As a result of the conference, the State Department accepted the mandate to develop specific guidelines for teachers who came into the middle school teaching situation with elementary or secondary certificates. These guidelines were to be developed within the ensuing years. What this amounted to, in effect, was a moratorium on the question until 1974. It was expected that by that time the first graduates with a degree in middle school teaching would be available. (To meet this need, both the University of Florida and Florida Atlantic University have implemented programs that lead to a Bachelor's degree in Middle School Education.)

> "During the year of 1970-71, the development of the middle school program was in two directions:
>
> 1. In the five rural schools, the focus was on--individualizing instruction, classroom management, non-gradedness, UNIPACS and techniques related to slow learner.
> 2. In the three schools located in the city, which were scheduled to become middle schools, the efforts were directed toward orienting the principals in the middle school concept.
>
> The three junior high school principals attended middle school conferences and institutes and made visitations to operating middle schools.

> A nationally recognized authority in the middle school concept was brought in to meet for one day in each of the three schools with the principals and teachers. Teachers had an opportunity to direct questions directly to the authority. Principals discussed curriculum, scheduling and other administrative problems.
>
> A mass meeting of all teachers was directed toward the rationale of the middle schools.
>
> The Middle School Coordinator met with the three principals on a weekly basis to plan for the conversion."[5]

In addition, two workshops on "Humanistic Processes" in education were held at the University of Florida and attended by staff members from Howard Junior High School in summer, 1971. However, attendance at the conference was not directly related to the development of the middle schools, at this time.

An emphasis on the "affective domain" seemed to follow naturally out of the middle school philosophy. Team teaching and guidance sessions were techniques identified earlier as suitable for the education of students in a transitional developmental stage. The affective teaching method was an additional component in this total approach of helping students to develop their self-concept. Yet, before students could be led into exploring their own values, teachers needed to undergo this exploration themselves. If they were to accept each student as an individual, they had to perceive their own values about teaching, learning and life in general.

Top school officials decided to apply for a Title III E.S.E.A. planning grant - to develop an affective approach to the learning process, students' self concept and attitudes toward school. Howard Junior High School was selected to develop the Title III application, as its staff and principal seemed most ready to accept the humanistic approach [end 1970-71].

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[5] From the comments of the Middle School Coordinator in reviewing the case study for final edition, March, 1973.

The program, E.A. New Approach (1971-72), was funded for the school year 1971-72; and the Middle School Coordinator took charge as its Program Director.

> "Because of the internal design of the evaluation process wherein one-half of the faculty was used as a control, a feeling of divisiveness was created. This was unfortunate, but unavoidable since the Title III people had precluded the use of a second school as a control.
>
> During the planning period, staff from the University of Florida was utilized to develop interpersonal relations, affective teaching processes and to identify the tasks ahead. Other consultants from Philadelphia public schools and Temple University demonstrated the use of affective teaching methods. Visitations were made to exemplary school programs in various parts of the country.
>
> A specialist from Buffalo, New York was used to develop techniques in human relations. A number of evaluative instruments were used to measure the objectives."[6]

The other two city schools involved in the middle school program were to observe for another year. The property owners showed their approval of these developments by continuing the two mils. The newspaper reported favorabl about what was happening; in particular, too, it covered in detail the new Title III project at Howard Middle School.

This school tried to implement the philosophy that was becoming well-known to both educators and laymen in the community. Prior to the millage vote, top school officials had made numerous appearances before the PTA and over the radio, promoting the new plan. Now, the citizens were invited to inspect this plan in practice.

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[6] Middle School Coordinator; March, 1973.

Howard, the new demonstration school, thus started out with a lot more support than did Belleview-Santos. We met enthusiastic teachers throughout this school, teachers who believed in a student-centered way of teaching. The experiment at Howard Middle School, even after only one year of operation, has shown that the middle school concept is operationnally feasible. The staff has seemed to enjoy the 4-man house concept as well as the small guidance sessions. They have expressed a positive evaluation of the program in admitting that they have learned to see their students in a new light. They said that learning levels had improved and have attributed this result to a change in classroom atmosphere and in their own attitudes.[7]

Coming out of the experience of a grade-oriented, threatening classroom situation that was met with either hostility or apathy by a large number of their students, the middle school teachers have begun to institute warmer learning environments, where for example, students are allowed to talk with each other and follow their own tasks. Teachers have acted as program supervisors for the individual student, making sure that each member of the class progresses along lines limited only by his potential. We saw students perform math problems not from textbooks but from psychedelic posters hanging on the wall. When students asked questions about the solution -- in this case, to find the number of similar star-like shapes -- the teacher redirected the inquirers to check with a fellow student who had already found the solution. There was purposeful activity in the room, mixed with an air of puzzlement and adventure.

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[7] "In the 1972-73 year - some (a few teachers) have not really changed - except that they feel that an overall change has taken place and they say -- 'we need the program.'" From the comments of the Middle School Coordinator, March, 1973.

E. PROSPECTS OF THE FUTURE (1972-)

With the demonstration school operationally under way, provisions have been made to further similar practices at the remaining Marion County middle schools in 1972-1973. It is planned to employ three outstanding and qualified teachers as Curriculum Coordinators for their school's staff in each of the three Ocala middle schools. In addition, these coordinators will serve the other five middle schools in the rural districts of the county.

In regard to middle school certification, a successful year of teaching in any of the middle schools plus a valid elementary or secondary teaching certificate will meet current certification standards as established by the State Department of Education in February, 1972. This provision helps to insure that in-service training in middle school teaching practices will receive support from both teachers and principals. Since teachers are to be evaluated on their performance as middle school teachers in order to be certified, cooperation becomes a matter of self-interest. After 1974, however, teachers without such earned certification or the equivalent University certification will be teaching under temporary certification, with a three year time limit to become fully certified. Accreditation of the school will be affected beyond this three year limit.

It is expected that there will be a uniform curriculum base by the end of 1972-1973 for the county's middle schools. Since there already exists an evident time lag for current middle school students who have progressed to the high school level, further curriculum development will be directed to the senior high school program, in order to enable a smoother transition for the new ninth graders. By the 1973-1974 school year, then, the Marion County school system hopes to have fulfilled the program laid down in its 1969 Master Plan: a functional and comprehensive K-5, 6-8, 9-12 grade plan.

IV. MELDING PRACTICE INTO THEORY

Our discussion of the innovation effort in the Marion County school system will now center around some theoretical aspects of this process. What models of change can we identify? What communication processes have been used? What kinds of roles were occupied by key personnel during the change process? And, lastly, how can we tie all these findings together with a set of Diffusion and Utilization Factors research has shown to play a major part in innovation?

These questions will guide us through the present chapter. Let us begin with an analysis of change models as they apply to the innovation process at hand.

A. MODELS OF CHANGE

Current innovation research differentiates among several distinct models of change: RD&D, Social-Interaction, Problem Solver, Linkage and Power-Coercive. The distinction arises mainly out of the different roles ascribed to the "producers" and "users" of the innovations.

How do the five viewpoints on innovation and change mesh with our analysis of change efforts in the Marion County school system? First of all, it is obvious that none of the models was utilized in its pure form. Change in Marion County occurred over more than a four-year time span, and in this course, various model alternatives were tried out.

At the beginning of the innovation, the research, development and diffusion model was in evidence. The former superintendent had heard about the middle school idea as it emerged in nearby Gainesville, at the University of Florida's Department of Curriculum and Instruction. Theoretical groundwork was laid there, and experts were invited to address prospective users in Marion County, i.e., the system's principals and administrative staff.

This model did not generate much success, though. The middle school concept needed a different introductory approach to turn the educational community in favor of it as an operational idea.

With the advent of a new superintendent, the situation became more fertile. The superintendent had two supporters of the renovation plan among the five members of the County Board of Education. It took relatively little time to convince another member of the Board of the desirability of the plan. Once the vote was cast a different model of change was adopted. With the plan having been legitimized from the top, we can discern the workings of the Power-Coercive model in this phase of the innovation effort. The Board's backing gave the idea an impact which it needed for adoption by potential users and moved it toward operationalization. Other power-coercive tactics, e.g., a teachers' walkout, were applied shortly after the Board vote, and put further pressure upon the system to make some needed changes in its present functioning.

When the position for a Middle School Coordinator was created, the power-coercive approach was abandoned in favor of yet another change model. The former Naples middle school principal was an insider through his appointment with the Marion County school system. Yet, he could also be considered an outsider, having arrived only recently on the scene. Since the innovator primarily responsible for the development of the innovation was essentially an outsider, the fact of his incomplete acceptance may have accounted for some of the project's early difficulties. Also, relatively speaking, his Naples experience had made the Middle School Coordinator an "expert." But instead of being influenced by their middle school expert, some key people in the system abstained from supporting the new school philosophy, and a majority of followers consequently showed little sympathy for it.

There was a major shift in strategy, however, when the change agent relocated his demonstration effort and began to work within the city schools. After the failure of Belleview-Santos, a problem-solving approach was tried out on a large scale. All principals were invited to attend special meetings, both to receive and give input on the emerging middle school concept and its implementation. This phase of the project had a more enthusiastic response. In fact, the present situation seems like an outgrowth of the learnings derived then.

In 1972-1973, each school will have access to its own "change agent," in the form of the three Curriculum Coordinators, who will provide leadership to the school staffs in designing their own program for middle school education. The change agent will remain in the school on a semi-permanent basis. Ideally a problem-solving change agent attempts to bring about a process of innovation self-renewal within a system in order to eventually remove himself from the scene. In keeping with the problem-solving approach, then, the Curriculum Coordinators face the task of installing in each assigned building some system for innovation maintenance and renewal, to insure a functioning middle school philosophy even after their appointments are terminated.

B. COMMUNICATION PROCESSES

In examining the communication processes at play, we have already referred to the user system and the resource system as two integral factors in the effort of innovation diffusion. Havelock's analytical model of planned change events includes, in addition, two other components. These are the message, the content of the innovation, and the medium, the channel by which the innovation is transmitted. The model can be summarized by the formula "who says what to whom by what channel to what effect." The following section will briefly deal with each of the components, and how it applies to our particular case.

Resource Persons and Systems (Who):

In our particular case, the resource system consisted of several elements. For one thing, it included the University of Florida's Department of Curriculum and Instruction, which presented basic research findings about the growth and development of today's adolescents. From these data it derived theories of school organization and developed a model which practitioners might adopt. The University thus sent two types of messages: basic research, and information about applied research and development.

Other important elements of the external resource system were: access to the ERIC system; ESEA Title I and III projects; other federally funded programs and services; professional associations; and USOE supported regional educational laboratories (See Appendix). We should mention here also those school systems within and outside of Florida which had adopted the middle school plan prior to Marion County. They acted as demonstration models for the Marion County school staff.

Internally, the system was endowed richly with resources. It boasted a new teachers' professional library. Services could be drawn from the Research and Evaluation Office, also. Funds were available to hold in-service training workshops and teacher discussions. The personnel in charge of the latter activities were resource persons themselves. Both the Director of Curriculum Services and the Middle School Coordinator had first-hand knowledge of the innovation. Other key figures with resource skills were the Superintendent, the Howard Middle School principal, and a helping teacher. Taken together, this group of people represented a strong, enthusiastic core of innovators in the system.

User Persons and Systems (To Whom):

The user system refers to any interrelated group of practitioners which uses an innovation. It is sometimes called the "target" of the innovation. It is clear that the middle school idea and reorganization plan were contrived to serve better the populace of Marion County. Thus, students and parents were the target of the innovation. Since they could be reached through the school staff, we must conclude that they were indirect targets of the change. The primary or direct targets were the Marion County principals and teachers. They reported their satisfactions and dissatisfactions with the plan offered. This feedback is most helpful for resource systems employing a problem-solving approach, because it generates new data to be accounted for in developing new solutions. As we have seen, resistance created by the user system caused the innovators to alter their strategy several times. Through feedback, the innovators discovered that the users did not value workshops as highly as expected. Similarly, feedback was used to generate alternatives, such as promoting certain teachers to be curriculum coordinators in their individual buildings.

Message (What):

In the previous paragraphs we introduced the discrimination between messages sent out by the resource system and messages sent out by the users. During the early stages of the innovation process, messages sent out by each of these sources were often conflicting. While the resource system advocated the middle school plan, the user system, with some exceptions, abdicated it. The innovators' persistence and perseverence in getting out the message (of implementation of the middle school concept) was critical to the success of their innovation efforts.

Medium (How):

All messages need a medium for their transmission. This may take on either of two forms. Messages may be transmitted in one-way direction, in writing, through speeches or television and radio appearances, journals, and so forth. Or, messages may be two-way in their process. Channels which preclude the dynamics of live interaction are one-way in their direction. A two-way transmission process necessitates the simultaneous presence of both users and resource persons. Diffusion and feedback often happen at the same time.

In Marion County, the innovation was transmitted through both types of channels. One-way communications, such as newspaper articles featuring the progress made at Howard Middle School, supported the diffusion process from the very beginning. It is significant that with the installment of the trial phase at Belleview-Santos, two-way communication increased; teachers now had something concrete to react to. The usefulness of two-way communication in an adoption process is best illustrated by the two conferences held in conjunction with the State Department of Education for all school personnel affected by the grade reorganization. They dealt with the implications of the reorganization plan for certification, e.g., that pressure could be placed on those teachers who would not conform to the new ideas. Yet, before final guidelines were passed, the conference hosts invited representatives of the various groups affected to participate in the discussion. New certification guidelines were passed shortly after these meetings and without a major resistance on the part of the school personnel.[8]

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[8] These two conferences, initiated by the Middle School Coordinator in a letter to the University of South Florida, February, 1970, have since become an annual affair.

C. AN ANALYSIS OF CHANGE ROLES

We need yet to examine the various roles key people played in bringing about the middle school program in Marion County. We will try to identify individuals who acted as catalysts, solution givers, process helpers, linkers, gatekeepers, innovators and opinion leaders, these being some of the roles identified with change strategies.

Let us begin with the role of the catalyst. Often, dissatisfied parents, students, or school board members take on this role. In Marion County, it happened that two humanistically oriented school board members initiated the crucial first steps. They aroused the public's concern over the dismal state of education in the county prior to rezoning; they argued for a unitary school system for blacks and whites; and, they endorsed the middle school idea as a new mode of contemporary instruction. Because of the considerable reputation enjoyed by these two persons among their fellow citizens, their arguments were listened to. In fact, they were critical in causing the Superintendent to contact people at the University of Florida.

The speakers invited from the University of Florida and the former Naples principal can be seen as solution givers. They knew the theory and had concise plans for operating a middle school. However, initially the users of the innovation were not ready for such complete models. They needed a slow process of re-education in order to apply this theory in their immediate environment. The solution givers, to a certain extent, failed in that they did not take into account these very real psychological needs.

A more effective approach was utilized by the very real helping teacher at Howard Middle School. She served as an in-house coordinator. This process helper, as we might call her, worked on a personal basis in the classrooms. She helped individual teachers to assess and diagnose the specific emotional and academic handicaps some of the youngsters were suffering from. She brought in relevant resource materials to use with these "problem" students. She helped teachers gain confidence in the new approach of individualized instruction. A greater number of teachers in her building employed practices in keeping with a middle school philosophy. Her success became the model for the envisioned Curriculum Coordinators, who will begin working from an individual "home-base" as well as work to coordinate system-wide adoption efforts during 1972-1973.

The role of linker and key innovator was filled by the Director of Curriculum Services. He oversaw the operation of the total project. Close by his side stood another key innovator, the person who fully supported the system's change: the Superintendent. Through all the early mishaps of the project, the Superintendent retained his belief in the merits of the middle school and attempted to convince gatekeepers and opinion leaders of these merits.

The strategically important gatekeeper positions in the school system were filled by the school principals. In spite of the School Board vote and an administrative move to adopt the middle school concept, some principals resisted concomitant changes in class management and teaching philosophy. We heard during our visit of a young teacher who was fired because of his team teaching efforts, which ran counter to his principal's beliefs.

Although principals played an important role in shaping opinions about the new practice, probably the strongest community opinion leadership came from another source. At the time when the city schools were undergoing their most intensive interaction with the new philosophy, during the year following the Board vote, a new education columnist began to write for the local newspaper.

A friend of one of the School Board members reported favorably and at length about new practices and procedures demonstrated in the various principals' meetings. Her reporting helped a great deal to attune the lay community to the innovation and seemed to be instrumental in breaking down resistance resulting from ignorance and anxiety about the innovation.

A word about resistance is in place here, since we encountered much of it in the Marion County school system. Resistance may be a healthy reaction of a system which attempts to ward off negative, unstabilizing influences. Yet the middle school idea had proven its practicability elsewhere. Why, then, did resistance seem so strong, here?

Social scientists usually point out four causes for resistant behavior. First, the change may involve a threat to the established social structure. This factor may have played a role, since the middle school concept was linked with desegregation efforts. Old prejudices had to be broken down before new forms of contact and communication could begin to take shape.

Second, the innovation may have presented various members of the education establishment with a threat to their vested interests. Building autonomy was brought into question, if an administration demanded a complete turnabout in teaching philosophy and practice. Former junior high teachers would no longer be assured of employment with the old certificate alone if the middle school organization was established.

A third resistance factor is the threat posed for the individual. People are not likely to give up the "tried and true" unless a change is immediately imminent. When the State Department decided that teachers needed one year of successful teaching in a supervised middle school setting, resistance became much less. The individual had to adjust in order to survive.

Fourth, and last, resistance may be generated by the very knowledge the innovation brings with it. If the individual has no choice but to adopt the innovation, or leave the system, it is difficult for him not to be affected by the innovation. This was the case in Marion County; the innovation required wide adoption in theory and practice by a large group of people.

D. COMMUNICATION PROCESSES AND DISSEMINATION AND UTILIZATION FACTORS

We will now attempt to tie the previous discussion of the communication process together with certain diffusion and utilization (D&U) factors, as a final summary. The ten factors - homophily, empathy, linkage, proximity, structure, capacity, openness, reward, energy and synergy - are brought into focus with respect to the four hallmarks of the communication process: the resource system, user system, message and media.

HOMOPHILY	Though professionally and culturally of a similar background, the resource system differed a great deal from its client. Guest speakers from the University of Florida as well as the Middle School Coordinator provided Marion County with viewpoints derived from phenomenological or Gestalt psychology, as well as developmental research. To the extent that this knowledge appeared esoteric, the user system did not own anything comparable. The aura of elitism such knowledge created may have been turned against the resource persons in the process of their innovation effort. The difference in beliefs and values, making it more difficult for homophily to be established, has been strongly emphasized.
EMPATHY	Through increased coordination, initial psychological distance between resource and user system can be transformed into a greater degree of homophily. This opportunity to "bridge the gap" was not well utilized by the resource system in Marion County. Not only did the lack of empathy jeopardize the progress of the innovation in the city school system, it also created stressful interpersonal dynamics which are becoming resolved only gradually.

LINKAGE Linkage is dependent on a high degree of empathy on both parts of the sender-receiver cycle. Since we have concluded that empathy was largely absent as a characteristic among innovators and consumers in Marion County, it follows that linkage was likewise a weak area in the innovation effort. Although key innovators were linked among themselves and to various resource persons at the University and State Department of Education, they were not linked well to their user system. The key innovators saw the need of the Marion County school system for innovation. Yet, while the innovators wished to implement progressive educational ideas, the user system adhered to the values of the status-quo.

It seems as if the reorganization plan was a message well suited to Marion County's educational needs. With one comprehensive thrust, the innovators achieved a new building program, an educational philosophy implemented through a new instructional program, and an integration plan for their system. To develop this package the middle school became the focus of the operation. Although the middle school concept contained a coherent set of assumptions, its unrelatedness to previous messages increased the chances for rejection. The fact that the message was linked to user needs and to psychology did not compensate for the fact that the message left unsatisfied the criterion of showing a relationship to past messages. Since the ensuing cognitive gap was large for many users, the result was delayed adoption, in many instances.

PROXIMITY Users who are in close reach of a resource are more likely to use it. From the geographic standpoint, the University of Florida was in an ideal position to serve as a resource. Gainesville and Marion County are less than fifty miles apart. Psychologically, however, the distance between the "experts" and the users was vast. A similar psychological distance existed between the Middle School Coordinator and his new environment. Proximity was not well utilized in the change effort.

STRUCTURE Structure entails such items as division of labor, a coherent view of the client system, and structured planning efforts. Structured planning efforts came mainly out of the work of the Middle School Coordinator and the planning committee. The former organized the workshops in a coherent, topic-related fashion. Division of labor may have existed to the degree that he utilized the experts for input and presented practitioners' viewpoints. Being new in the system, he only gradually obtained a coherent view of the system and its subparts, a knowledge much less expected from the University. Structure was particularly evident in the five year plans, which were designed for the innovation effort and updated on a yearly basis.

The user system demonstrated several elements of "structure." It contained specific organizational units whose task it was to receive and act upon outside knowledge inputs. These units were the Office of Curriculum Services and the Office of Federal Programs. Furthermore, the system had created specific innovator roles to implement change, such as the roles of Middle School Coordinator and helping teacher. What was missing was and adequate internalized problem-solving strategy, i.e., an orderly set of processes for need sensing, diagnosis, resource retrieval and evaluation. Recommendations for the future would clearly have to include the necessity of going beyond a strategy of trial-and-error (Belleview-Santos!), toward the system-wide installation of on-going problem-solving sequences.

Finally, "structure" was well documented in the network of social relations and its intricate pattern of leadership and followership. We discovered two factions in Marion County: a progressive group represented by the two former school board members/innovation advocates and their followership; and a conservative group led by the principals and some of the staff at Fort King and Osoeola Middle Schools. The difference in adoption behavior was explained mainly by the fact that at Howard the administration was perceived as allowing for experimentation. In contrast, the principals of the other schools, at the time of the investigation, were not yet convinced that middle school was the way to go.

CAPACITY

In terms of status and sophistication, both the University and the change agent possessed considerable capacities. Likewise, the user system was fortunate to have as its political leader a man of exceptional qualities. His untiring effort at gaining support for the innovation has already been pointed out. This, plus the educational background and experience of his prime assistants, the Director of Curriculum Services and the Middle School Coordinator, greatly enhanced the capacity of the Marion County school system for organizational change.

OPENNESS

The University came with what was asked of them, i.e., workshops on group dynamics, staff development, etc. It is highly unlikely that these offerings met any expressed needs of the principals and staff of the schools. Subsequently, workshops with an interpersonal or process orientation were replaced by a more academic and course-oriented type of training. The resource system thus demonstrated a certain amount of openness and flexibility, to which the clients responded with an increased willingness to favor and consider the innovation.

REWARD

The Middle School Coordinator, in particular, had to wait for a long time until his efforts seemed to provide any personal satisfaction. With the creation of the Title III Demonstration Project at Howard Middle School in fall 1971, some degree of reward has become overt.

For the users, it has been rewarding to observe a decrease of truancy and vandalism among students and an increase in job satisfaction among staff. Howard Middle School has experienced the lowest teacher turn-over in its entire history. Teachers there reported favorably about the new personal relationships established with their students, and students generally favored the house concept and small guidance groups.

Though the reward value of the message seemed at first negligible in light of the many re-learnings it required from teachers, the demonstrated success at Howard is now proving the theory's claim that pre-adolescent students learn better when they are given a "grace period" between the basic skills orientation of the elementary level and the subject matter orientation of the high school -- a period which is vitally important for building and strengthening the student's concept of himself as a person.

ENERGY

It may certainly be said that the University provided its best men for the demonstration effort Their energy was confined to invitations; however, on-going energy came largely from the County's top administration and the Middle School Coordinator. Their output in time and effort was not matched evenly by that of the total user system. Only certain interested individuals invested a great deal in the innovation; to them goes much credit for the partial adoption of the plan.

SYNERGY

The innovators persistently pursued their message through a variety of media. The joint efforts of both the University and the State Department at two major conferences emphasize the coordinated approach that was used. The granting of Title III funds in 1971 to demonstrate the middle school idea sent a clear message to the users that the idea had been well accepted in top state echelons and that it was worth financial and psychological support. The grant has made Howard Middle

School the pacesetter and model for the total system. Thus, obtaining financial legitimation has been influential in getting the middle school idea better accepted among the Marion County user system.

APPENDIX A

Data from the On-Site Interviews and Mailed Questionnaire

Table 1

INNOVATION PROCEDURES

On-Site Interviews
and Mailed Questionnaire
for the three key Innovators

	Dir. of Curr. Services (mail)	On-Site				
		Dir. of Curr. Services	Superintendent	Middle School Coordinator		MEAN VALUES
a. Systematic evaluation	3	4	3	0		2.5
b. Solid research base	4	4	2	5		3.7
c. Systematic planning	4	5	5	4		4.5*
d. Adequate definition of objectives	3	4	3	4		3.5
e. Selecting a competent staff to implement change	2	4	4	0		2.5
f. Starting out with adequate financial resources to do the job	4	3	5	5		4.2
g. Utilizing a number of different media to get the new ideas across	5	4	5	4		4.5*
h. Persistence by those who advocate the innovation	5	5	5	5		5.0**
i. Maximizing chances of participation by many groups	3	4	4	0		2.7
j. Stressing self-help by the users of the innovation	4	3	4	0		2.7
k. Adequate diagnosis of the real educational need	5	4	3	4		4.0
l. Providing a climate conducive to sharing ideas	4	5	5	5		4.7*
m. Providing a climate conducive to risk-taking	3	3	5	0		2.7
n. Creating awareness of the need for change	5	5	3	4		4.2
o. Creating an awareness of alternative solutions	4	3	5	5		4.2
p. Confrontation of differences	4	2	2	4		3.0
q. Resolution of interpersonal conflicts	4	3	4	0		2.7
r. Involvement of informal leaders of opinion inside the schools	3	4	4	4		3.7
s. Participation by key community leaders	2	4	3	3		3.5
t. Taking advantage of crisis situations	2	4	2	4		3.0
u. Finding shared values as a basis for working	4	4	4	4		4.0
Other procedures used (specify)						
Totals:	77	81	80	64		
Mean Values	3.6	3.8	3.8	3.0		

Key to the degree of emphasis placed on each procedure:
5=extreme 4=major 3=moderate 2=slight 1=none 0=no answer

DISCUSSION

The highest value was ascribed the factor "Persistence by those who advocate the innovation" (**). The mailed questionnaire as well as the personal interviews showed that all three key innovators felt extreme emphasis was placed on this variable. Ranked next highest in importance were the following items (*): "Providing a climate conducive to sharing ideas;" "Systematic planning;" and "Utilizing a number of different media to get the new idea across." Individual innovators varied in their estimate of these procedures as to whether extreme or major emphasis had been placed on them.

The table shows that key innovators were in total agreement on one procedure, giving it the highest value both in the mailed questionnaire and during personal interviews: the importance of each innovator's own personal involvement in the innovation process. On other variables, opinions differed considerably. Thus, when we look at each key innovator separately, we gain a spectrum of innovation procedures deemed extremely important. As might be expected, each innovator stressed those factors which were particularly important to carry out his particular role within the total process.

Beginning with the Superintendent, we find that he ascribed extreme importance to seven factors, the highest number of variables thus ranked among all innovators. Conversely, he deemed only three factors to have had minimal importance: "Solid research base," "Confrontation of differences," and "Crisis Situations." Whereas the Director of Curriculum Services also ascribed low priority to crisis situations and confrontations (mailed questionnaire and on-site interview, respectively), no other respondent shared the Superintendent's rating of the role research played in the innovation process.

The Director of Curriculum Services, in both instances, stated that major emphasis had been placed on this variable, while the Middle School Coordinator treated it with extreme emphasis. One conclusion that might be drawn from this is that the key innovators were not clear among themselves about the role that research played as a basis for their innovative effort.

Outside of the factors rated to have had major importance by all key innovators, the Superintendent assessed the following variables as extremely important: "Starting out with adequate financial resources to do the job;" "Providing a climate conducive to risk-taking;" and "Creating an awareness of alternative solutions." These variables portray the concern of the Superintendent to stay within the realities of doing the job of innovating. Both budgetary and human limitations were within the awareness field of this administrator and created for him variables that had to be reckoned with if the innovation were to be successful. When we compare these concerns with the responses from the Director of Curriculum Services, the focus changes slightly. On the mailed questionnaire of December 1971, this innovator pointed out four variables with extreme importance. Two of these were later shared by the other innovators during our on-site interviews. The remaining major December variables were: "Adequate diagnosis of real educational need" and "Creating awareness of the need for change." While the latter variable was emphasized again during the on-site interview, the respondent dropped the former one at that point. Diagnosis had been accomplished by then, and new variables had assumed major importance in the meantime. These were: "Systematic planning" and "Providing a climate conducive to sharing ideas." To the extent that both variables received equal stress by the other key innovators, they reflect the procedures deemed to have been most heavily emphasized at the time of our interview.

We can conclude our comparison of key innovators with a brief analysis of the responses from the Middle School Coordinator. He stressed a total of five factors as extremely important. Of these, four received an equal rating from at least one other innovator. The factor that stands out most prominently for the Middle School Coordinator was: "Solid research base." Yet, when asked about evaluation, the Middle School Coordinator did not offer a response. In all, a total of six variables went unanswered. This number is more than the factors deemed extremely important; hence, the "no response" variables take on a significance of their own. They are therefore listed here: "Systematic evaluation;" "Selecting a competent staff to implement change;" "Maximizing chances of participation by many groups;" "Stressing self-help by the users of the innovation;" "Providing a climate conducive to risk-taking;" and "Resolution of interpersonal conflicts."

A "no comment" response is just as much an answer, and usually is an illuminating one at that. From the Middle School Coordinator's analysis, six variables were rated as not important and dropped to a mean score of between 2.5 and 2.7. It can be conjectured that on six out of twenty-one variables, or roughly one third of the procedures suggested, only slight emphasis was placed.

A closer look at these variables reveals that they are mostly interpersonal in nature. The three variables which do not fit this categorization describe the lack of systematic evaluation, staff selection and stress of self-help. Taken together, these are crucial areas that, if left unacted upon, can militate against the success of an innovation.

As this analysis is being written, it has been brought to the investigators' attention that a shift in leadership has taken place in the school system's top administration. As of November 1972 elections, the Superintendent is no longer in office. The Director of Curriculum Services has been appointed as a counselor at one of the middle schools, while the former Middle School Coordinator continues in his position as Program Director at Howard Middle School.

Table 2

BARRIERS TO THE INNOVATION

On-Site Interviews
and Mailed Questionnaire
for the three key Innovators

		On-Site				
	Dir. of Curr. Services (mail)	Dir. of Curr. Services	Superintendent	Middle School Coordinator		MEANS
a. Lack of adequate contacts with outside resource groups (e.g., universities, labs, consultants, etc.)	1	1	2	1		1.2
b. Lack of communication among the staff	3	2	2	4		2.7
c. Lack of communication between staff and students	3	3	4	0		2.5
d. Confusion among staff about the purpose of the innovation	4	4	3	3		3.5
e. Staff's lack of precise information about the innovation	2	3	2	4		2.7
f. Disorganization of the planning and implementation efforts	3	2	3	2		2.5
g. Unwillingness of resource groups to help us revise or adapt	3	2	1	0		1.5
h. Rigidity of school system structure and bureaucracy	2	2	4	5		3.2
i. Unwillingness of teachers and other school personnel to change or listen to new ideas	4	4	3	4		3.7*
j. Shortage of funds allocated for the innovation	2	3	5	2		3.0
k. Shortage of qualified personnel	4	3	4	3		3.5
l. Feeling by teachers and staff that the innovation would have little benefit for them	5	5	3	4		4.2**
m. Frustration and difficulty encountered by teachers and/or relevant staff in trying to adopt	3	3	3	3		3.0
n. Frustration and difficulty encountered by students during the adoption process	1	2	3	0		1.5
o. Lack of contact with other school systems who had considered the same innovation	1	2	1	2		1.5
p. Lack of coordination and teamwork within the school system	3	3	3	4		3.2
q. Absence of a concerted campaign to put the new ideas across	2	2	2	2		2.0
r. Inadequacy of physical plant, facilities, equipment, or supplies	4	5	5	2		4.0*
Other barriers (specify)						
TOTALS:	50	51	53	47		
MEAN VALUES	2.7	2.7	2.7	2.6		

Key to the degree of importance as a barrier:

5=extreme 4=major 3=moderate 2=slight 1=none 0=no answer

DISCUSSION

This analysis yields as the most prominent barrier to the innovation the feeling by teachers and staff that the innovation would have little benefit for them. This factor was given extreme importance by the Director for Curriculum Services both in the mailed questionnaire and during the on-site interview. The same factor was considered a major barrier by the Middle School Coordinator. Although the Superintendent attributed it only moderate importance, the two practitioners who were directly in contact with the users viewed lack of reward as the major blocking force.

Second in importance as a barrier were the inadequate schools and facilities. During the on-site interviews, both the Director of Curriculum Services and the Superintendent mentioned this inadequacy.

Perceived as a major barrier in three instances was the unwillingness of teachers and other school personnel to change or listen to new ideas. All three key innovators showed consensus on these barriers.

There were other forces each individual saw working against their efforts. The Superintendent indicated as an extreme barrier the shortage of funds allocated to the innovation. Replying on the mailed questionnaire under "other barriers," the Director of Curriculum Services pointed out that certification created an extreme barrier, while the house concept, at that time, acted as a major one. There was a six-month interval between the mailing and our on-site visit. By the time we held our personal interviews, priorities had shifted, most likely. Barriers from six months prior lost some of their importance. We were alerted, however, to another problem area: the lack of leadership given by the State Department of Education. To this factor the Director of Curriculum Services attributed extreme importance. An altogether different perspective was seen by the Middle School Coordinator who, in the rigidity of the school bureaucracy, saw the primary reason for the difficulties he encountered as an innovator.

Table 3: USE OF INTERNAL AND EXTERNAL RESOURCES

On-Site Interviews and
Mailed Questionnaire by
Three Key Innovators

	Dir. of Curr. Serv. (mail)	On-Site			
		Dir. of Curr. Serv.	Superintendent	Middle School Coord.	On-Site MEANS
INTERNAL RESOURCES					
a. Research and Evaluation Office or Staff	3	2	5	2	3.0
b. In-Service Training Program	5	5	5	4	4.6 **
c. Library Facilities	5	3	5	4	4.0
d. Media Specialists or Centers	5	2	4	4	3.3
e. Curriculum Supervisors	5	5	5	4	4.6 **
f. Teacher Discussions & Idea Presentations	3	2	4	5	3.6
g. Student Discussions & Idea Presentations	2	2	2	0	1.3
h. Other (specify)					
TOTALS:	28	21	30	23	
MEAN VALUES:	4.0	3.0	4.2	32	
EXTERNAL RESOURCES					
i. ERIC	5	5	5	4	4.6 *
j. USOE Supported Regional Educational Laboratories	4	2	2	0	1.3
k. ESEA Title I Projects or Services	5	2	4	0	2.0
l. ESEA Title III Projects or Services	4	3	4	0	2.3
m. Other Federally Funded Programs and Services	3	2	3	0	1.6
n. State Education Agency Services	4	2	2	3	2.3
o. Foundations and Other Private Programs	2	1	1	0	0.3
p. Universities and Colleges	5	5	4	4	4.3 *
q. Professional Associations	3	3	4	0	2.3
r. Other (specify)					
TOTALS:	35	25	29	11	
MEAN VALUES:	3.9	2.7	32	1.2	

Key to frequency of use, if available:

6=not available 5=very frequently 4=frequently 3=occasionally
2=very infrequently 1=never 0=no answer

DISCUSSION

Since the mailed questionnaire asked for the system's use of internal and external resources throughout the year, it was not included in computing an average on resource usage for the middle school innovation. On-site interviews revealed that, among internal resources, "In-Service Training Programs" and "Curriculum Supervisors" ranked among the sources used most frequently to implement the innovation (**). In-service training and curriculum supervision were also mentioned as the two kinds of resources used most extensively by the system in its total innovation effort throughout the year.

Turning to the use of external resources, the ERIC system seems to have enjoyed primary importance both for the implementation of the middle school concept and for the year-round operation of the Marion County school system. Another important source of information was outside universities and colleges. Individual respondents added two other influences to these sources. The Director of Curriculum Services mentioned the frequent use of professional consulting firms, and the Middle School Coordinator pointed to his occasional requests of an unidentified outside agency.

The lowest value for internal resources was ascribed "Student Discussions and Idea Presentations." It seems that students were not included in the system's effort to get the innovation adopted. The actual users of the innovation were seen to be the teachers, not students. Yet, the vehicle for addressing teachers received ambiguous treatment. Teacher discussions and idea presentations were regarded by the Director of Curriculum Services as a tool used occasionally throughout the year and very infrequently in connection with the middle school plan. This viewpoint stands in contrast to the responses made by the other innovators. The Middle School Coordinator felt that extreme emphasis has been placed on teacher discussions, while the Superintendent's high ranking of this variable supports this contention.

We must conclude from this variance of opinion that the use of teacher discussions was a resource not equally shared by all innovators in their attempt to bring about the middle school plan in the county.

Table 4: KEY PERSONS AND KEY GROUPS (Data from On-Site Interviews Only)

KEY PERSONS	Age	Ethnic Group	Socio-Econ.	Attitude to this Innovation	Attitude to Innovations In General	Basis of Motivation	Educational Values	Frequency of Contacts with: Students	Frequency of Contacts with: Inside Resources	Frequency of Contacts with: Outside Resources	Other note-worthy characteristics
1. Innovative Board Members	40s	W	U	[✓ +] N -	[✓ +] N -	Humanistic	Equal education for all	Nominal	High	High	Successful professional in community
2. Superintendent	40s	W	U	[✓ +] N -	[✓ +] N -	Progressive	Equal Opportunities	Nominal	High	Medium	Prime Mover
3. Director of Curriculum Services	40s	W	U	[✓ +] N -	+ [✓ N] -	Responsibility to position	Less traditional	Medium	High	High	Mediator
4. Middle School Coordinator	50s	W	U	[✓ +] N -	[✓ +] N -	Embodied Middle School idea	Existentialist Humanistic	Medium	High	High	Figurehead o MS: blamed f its failure
5. Howard Principal	50s	W	U	[✓ +] N -	[✓ +] N -	Humanistic	Equal Opportunities	High	High	Medium	Laissez-fai attitude
KEY GROUPS											
1. Other principals	--	W	U	+ N [✓ -]	+ N [✓ -]	Preserve Status-quo	Conservative	High	High	Low	Chief opponents
2, Lay Community members (Ocala Star Banner, Chamber of Commerce)	--	W	U	[✓ +] N -	+ [✓ N] -	Try something new	Liberal	Nominal	High	Low	Proponents

Discussion: The above pattern shows the prevalence of positive forces within the group of innovators. They were connected by their race, socio-economic background and belief system. Yet they underestimated the power of the resistors who, though similar in race and status, shared a primarily conservative view of the process of education.

APPENDIX B

Middle School Philosophy

Middle School Philosophy

An Outline *

WE BELIEVE:

1. that students are, like adults, children of God,
   therefore we raise, not crush, spirits, we accept not reject;

2. that regardless of personality traits, school schildren are entitled to equal educational opportunities,
   therefore a child whom others find unattractive becomes our special concern;

3. that no person reaches his full potential,
   therefore even the brightest can go further and the slowest is not condemned to neglect;

4. that children, even of different races, creeds and cultures, are more alike than different,
   therefore our instruction and expectations emphasize the humanness of regard for others, of order in society, of justice as an ideal in spite of unjust practices, of the strength of the human spirit in the face of adversity;

5. that beneath the sameness there is diversity,
   therefore we do not prescribe the same treatment for every child, individualized instruction is a goal that can be achieved;

6. that children are inquisitive learners,
   therefore we attempt to provide a variety of learning opportunities- literature, music, art, handcrafts, sewing, cooking-consumer skills, typing, work experience on jobs, agribusiness-horticulture, physical fitness and health knowledge and habits, additionally we recognize that the community and home are learning situations and are a part of the curriculum;

7. that children are frequently deeply troubled human beings, that their social, emotional, physical and value problems are as of legitimate concern to them as adult problems are to us,
   therefore the guidance function of the teacher has major emphasis at Howard with a built-in opportunity for a child at this school to have his fair share of a home base teacher's time and talent.

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*As developed by the faculty of Howard Middle School, Ocala, Florida, 1971/72.

IN IMPLEMENTING THE ABOVE PHILOSOPHY, THE FACULTY AT HOWARD.

1. provides an opportunity, once each week, for a student to meet with his home base teacher in a small group counselling session or for individualized instruction in addition to the opportunity to meet in private with a guidance counselor;

2. emphasizes corrective measures in dealing with disruptive behavior rather than punishment, although punishment with reasons carefully explained comes as a last resort; we avoid, as much as reason will allow, throwing children into the street through suspensions and expulsions;

3. enables children by helping them to develop inner security, thereby helping them to fare better in high school and in various communities than did their older brothers and sisters;

4. teaches students to consider alternative choices, whether in math and science, writing and reading, behavior and ideas;

5. considers subject matter important in terms of how it can meet the needs and accomodate to the abilities of our students;

6. is positive, achievement and progress is emphasized rather than using the threat of low marks to grade students;

7. uses the team approach wherein the four-member teaching teams meet almost daily to diagnose problems, prescribe solutions, and develop plans to assist students in improving skills and learning abilities;

8. uses the interdisciplinary approach to buttress subject matter areas and to decompartmentalize knowledge; by doing so we help students to use skills and concepts learned in one situation to meet needs in other situations;

9. is innovative and risk-taking in the knowledge that the teaching strategies and techniques used in the past were not markedly successful, that we cannot fail if we can just help our students to want to learn how to learn;

10. is pragmatic in that we recognize our limitations and the evolutionary nature of change, that every day we experience agonizing frustrations and disappointments but we are sustained by the belief that we are engaged in the nation's most important task at a time and place and with the children most in need of professional educators.

CHAPTER SIX

FLEXIBLE MODULAR SCHEDULING

A Case Study from Troy, Michigan

[Case Study drafted by Mary Havelock.
Assisted by Elizabeth Markowitz.]

BACKGROUND AND METHODOLOGY

Data for the following case study was collected primarily through two days of interviewing at Troy High School in Troy, Michigan, in November of 1972. During these two days the three interviewers who conducted the study were given the full cooperation of the staff of the high school. Since Troy participated in our nationwide sample of school systems, some background information was also obtained from the mailed questionnaire which was filled out by the Troy Superintendent's office prior to our on-site visit.

Because the innovation under study was initiated in 1964, many of the people who were involved in its planning and implementation have subsequently moved on to other positions. Some of these people were still in or near Troy and were available for personal interviews. The man who was Principal at the outset of the innovation process is no longer located in Michigan, but he was available for an interview by telephone. All those who were students during the course of the innovation have since graduated from the high school, but we were fortunate in being able to interview one former student.

Two different interview schedules were utilized in conducting the interviews (see Appendix). The long form (Schedule I) was used with five key informants, the Assistant Superintendent, the former Principal, the former Assistant Principal, the Guidance Director, and the former Curriculum Director. Three teachers and a former student were interviewed using the short form (Schedule II). In addition, the Education Reporter of the _Daily Tribune_ of Royal Oak, Michigan, gave us valuable background information.

Since the full story of the innovation process covered the period of time between 1964 and 1970, many of our informants were uncertain as to the exact dates and sequencing of the relevant events. We therefore found the files of the _Daily Tribune_ particularly helpful in establishing certain dates. These newspaper articles also provided us with some additional information not elicited from our informants, and material quoted directly from them is indicated in footnotes to the text.

We would also like to express our appreciation to the former Principal for allowing us to quote material from an independent study paper on the innovation which he prepared in 1969.

I. DEMOGRAPHIC INFORMATION

Troy is a rapidly growing city in Oakland County, twenty miles northwest of Detroit. Fifteen years ago it was a rural area with a sparse population, and most children travelled to school on buses in the rural tradition. Land was principally used for farming until modern improvements caught up with the area. First, city water and sewers were installed, and the land was sold for development. Next, eight miles of the interstate highway system were built connecting Troy with downtown Detroit. Rather than growing and developing gradually Troy bloomed overnight, with the population increasing from 20,000 to 40,000 between 1960 and 1970. It rapidly became a residential suburb of Detroit, and building is still going on at a rapid rate. It is the only school district in Oakland County with a continuous growth; while enrollments in nearby districts are going down, Troy's continues to increase.

The community consists of a core of "old timers" and many newcomer residents (those who have come within the last fifteen years). It is a white middle class district with high average income; there are few poor people in Troy. Politically the city votes conservative Republican, although this is gradually changing as the old-timers become more outnumbered.

Although Troy was once one of the poorer school districts in the area it is now evolving into one of the richest. The School Board, trying to protect its recent gains, is not eager for state intervention in school financing or for the institution of a uniform school support system.

Although still basically a residential community, Troy has an expanding tax base. There are several small factories and a rapidly growing complex of offices. These are attracting still more businesses, creating a further increased tax base. Kresge International has built a large corporate headquarters in Troy, and the Somerset Mall houses two large New York department stores and several well-known smaller specialty shops.

The school system as a whole had about 4,700 pupils in 1965 and now has about 7,000. The high school, which housed 1,300 students at the start of the flexible modular scheduling program, now enrolls over 2,000. These gains have caused extensive building programs in the school district as well as having direct consequences for flexible scheduling. The per pupil expenditure of the school district is about $660 per year.

II. THE INNOVATION

A. OVERVIEW

In the spring of 1965 the Troy School Board approved a plan of flexible modular scheduling to be implemented the following fall in grades 9-12. Under the new plan the high school day was divided into 24 teaching modules of 15 minutes each. These modules were strung together to form class periods ranging from 45 minutes to one and a half hours. Different courses met for different lengths of time each day of the week and the schedule was repeated on a weekly basis. In academic courses a large lecture period of up to 150 students was generally held early in the week, with two small discussion groups attended by eight to ten students following later in the week.

Students could register for as many courses as they felt able to handle, and as a result some students were taking eight or ten courses while others were taking only four. This meant, of course, that students had differing amounts of time scheduled in classes; some students were in class 70% of the time while others were in class only 30% of the time. An important aspect of the program was that all students would have some significant portion of their school day unscheduled, and for the average student this turned out to be about 50%. This unscheduled time was to be used for consultation with teachers, laboratory work or individual study, and it was up to the student himself to plan his own use of this time. Teachers also had a portion of their day unscheduled so that they would be available to help students on a consultation basis.

The innovation was initially funded on a local basis. With the exception of some start-up funds which included the cost of an in-service staff training program, the major expense was a yearly payment of about

$3000 to cover the cost of the scheduling itself. On the whole, the Principal described the funding as a redirection of funds rather than as an increase.

During the first year, Troy was selected by the Kettering Foundation[1] as one of the eleven most innovative schools in the country. As one of these demonstration schools Troy received a grant of $25,000 from Kettering to hire a research director and a director of dissemination; pamphlets were prepared and distributed across the country, and as a result over 1,000 visitors a year came to observe the school.

Preliminary planning and staff training took place during the spring of 1965, and the new schedule was computer generated and curricula were revised over the summer. After the first year of operation several alterations were made and dissension over the innovation began to surface. By the third year flexible modular scheduling had generated tension and open controversy both within the school and in the community, and when several modifications failed to completely ameliorate these conditions, the program was phased out by the end of the 1969-70 school year.

An attempt to understand what happened in Troy and why flexible modular scheduling was ultimately abandoned is the subject of this report. Specifically, we will present a chronology of the Troy experience and then analyze the events in terms of what is known theoretically about the process of innovation.

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[1] Kettering had recently created a new division which they called the Institute for Development of Educational Activities (I/D/E/A), and Troy High School was selected as meeting the I/D/E/A Demonstration Schools criteria. Schools were selected on the basis of a continuing dedication to innovativeness characterized by new methods of individualized instruction and an atmosphere of inquiry in the school leading to systematic evaluation and improvement of the program.

B. RATIONALE

The Principal described the decision to adopt flexible modular scheduling as resting on two basic assumptions. The first of these was that different courses require different amounts of class time. For instance, an English instructor might require only 15 minutes of class time for instruction, after which the student would be asked to work on individual assignments. On the other hand, a physical education or a home economics instructor could often use an hour and a half of class time. A chemistry lecture of a half hour one day might need to be followed by a two hour laboratory experiment on the following day.

The second basic assumption on which flexible scheduling was founded is that different students are able to carry different course loads. In the traditional school each student carries the same number of courses regardless of his ability to handle the work load. Under flexible scheduling the course load can be adapted to the individual student.

A number of benefits expected from flexible scheduling were also described by the Principal. First of all, the teacher would have the option of scheduling large or small group instruction as appropriate for different activities. The unscheduled time provided under the new system was felt to be important for three reasons: first, it would give the students an opportunity to utilize all the resources of the school, including laboratories and libraries. Also, it would enable them to consult with teachers or counselors on a one-to-one basis during school time. Finally, the student would be required to develop responsibility in the planning of his time. Flexible scheduling was also seen as providing the student with the opportunity for an individualized rate of progress through course material, since laboratories and other facilities would always be open to him. The Principal summed up the advantages of flexible scheduling by saying that it is "an important step towards truly individualizing instruction, towards fully utilizing the teachers' abilities, the time available in the school day, the students' needs and abilities and the school's resources."[2]

C. PROGRAM ELEMENTS

Flexible modular scheduling involved two major elements: the first was the generation of the schedule itself. The other was the vast alteration in the school environment which was possible under the new scheduling. The many significant changes which occurred at this level are not all a necessary part of flexible scheduling. As a structure, flexible modular scheduling can be viewed as a skeleton, with meat being provided by the new practices and policies which it fosters.

1. Generating the Schedule:

Since each student was to have a different class program, the problem of scheduling was a complex one which could only be handled by computer. In 1965 only three computer installations in the country had such programming capability. Of these Troy chose the Stanford School Scheduling System of Palo Alto, California, to prepare their schedule. Students registered for courses in the spring and the schedule was prepared over the summer. Despite the complexities of the scheduling operation, it was still possible for students to make some alterations in their schedules after the new school year was under way the following fall.

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[2] The Principal very kindly has allowed us to quote material from an independent study paper he prepared in 1969.

2. The New Environment

There are many ways to describe the new environment which emerged at Troy High School during the life of flexible modular scheduling. We will explore several of these later in the report. At this point however, we will focus on four major areas of change: Changes in the teacher's role, changes in the student's role, additional changes in curriculum and class organization, and special programs which were added after the first year of operation.

a. Changes in the Teacher's Role

The impact of the innovation on teachers was enormous, requiring an alteration both in teaching methods and in their basic philosophy of education. In the spring of 1965, while the innovation was in the planning stage, teachers were given an in-service training program which was designed as an orientation to developing more open classroom relationships.

Large and small group instruction also dictated the initiation of team teaching, with which the teachers had had no previous experience. The teachers had to make team decisions as to who would deliver lectures and who would lead small group discussions, and their lesson plans had to be prepared collaboratively. This was a drastic change for many teachers who had built up their course files for self-contained classes over many years. This type of preparation was quite necessary for the handling of small group discussion sessions and for one-to-one consultation with students. The change to informal relationships with students was, in fact, quite a challenge to teachers who previously had run traditionally formal classrooms.

Although the training program served its purpose to some degree, it still left the teachers with many practical problems to solve. Not only was it necessary to alter the content of courses already being offered in order to adjust to small and large group instruction and varying class lengths, but in addition many new courses were added to the curriculum. When flexible scheduling began 125 courses were offered at the school, as opposed to 90 the previous year. The teachers and the curriculum director were under great pressure to design or redesign courses in a very short period of time with a minimum of help from outside resources.

b. Changes in the Student's Role

Students were required to make a number of new types of decisions when flexible scheduling was adopted. First, it was up to them to choose the number of courses which they felt they could take, whereas previously each student had been expected to sign up for four academic courses plus one activity. The major area in which the student had to exercise judgment was in his utilization of unscheduled time. This turned out to be one of the most difficult areas of adjustment of the entire program. Finally, the student had the option of skipping classes; at the outset of the program the school had not developed a method of tracking attendance under the complex system.

An expanded curriculum was designed to offer relevant courses to those students who did not plan to attend college and also to provide college-bound students with non-academic courses to broaden their education.

c. Additional Changes in Curriculum and Class Organization

We have already mentioned several policies and programs which were introduced with flexible scheduling, including open laboratories, team teaching, large and small group instruction and optional attendance. In addition, Troy concurrently introduced non-graded classes and phased curriculum. In some departments non-graded classes were open to students in all grades 9-12 when sequencing of courses was not important. Some other courses were designed in phase units so that a student could be placed in an appropriate phase depending on his ability and achievement level rather than on his class year. This resulted in no failures and no repeats in these courses.

d. Special Programs

Three separate programs will be described which were of particular importance during the course of Troy's experience with flexible scheduling. The first of these, the Kettering Workshop, was an isolated event, and the other two (Cluster A and Cluster C) were introduced as continuing parts of the program.

i. The Kettering Workshop.

After the first year of operation under flexible scheduling, the Kettering Foundation sponsored a nine-day sensitivity training laboratory which was attended by about ten students and four or five staff members. This training, which Kettering provided for representatives of all its I/D/E/A schools, was very intensive and its consequences were far-reaching.

ii. The "Cluster C" Sensitivity Training[3]

The Kettering workshop experience was partly responsible for the initiation of a program to help students who were experiencing academic and behavioral difficulties under flexible scheduling. This program was started in the spring of 1967 (the second year of the flexible scheduling innovation) and was put in the hands of an Administrative Intern who had been placed in Troy by the NASSP.[4] The staff who led the program included two counselors, six volunteer teachers, and the Principal as well as the Administrative Intern. All of these instructors had had some experience with sensitivity work or group counseling (some having gained this experience from the Kettering workshop), and they felt that these students would derive the greatest benefit from a program designed around sensitivity training approaches.

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[3] In different areas of the school there were clusters of desks where teachers could sit during their unscheduled time, and where they would be readily available to students who wanted to consult with them. Special programs were known by the letter of the cluster in which they originated.

Fifty students who were considered "incorrigible" were selected to participate in the new program, which was called "Cluster C"; their schedules were altered so that they would be free from class for the hour and a half each day during which Cluster C met. The students were encouraged to talk openly about any problem, and it was hoped that their behavior and attitudes would show significant improvement as a result of this experience.

iii. The "Cluster A" Speakers Program[5]

In an attempt to offer students further enriching experiences during their unscheduled time, the Social Studies department organized a program in which authorities on a range of subjects were invited to come to the school to speak to the students. They were often invited to come for the entire day and participate in "rolling seminars" so that each student would have some opportunity during the day when he could hear the speaker during unscheduled time. The Principal noted that over forty-six different programs were presented which ranged from the Viet Nam War, Black Power, LSD and police brutality to flying saucers and space people on earth.

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[4] The National Association of Secondary School Principals has a program of placing prospective principals as interns in innovative schools.

[5] (See cluster note on previous page).

III. THE INNOVATION PROCESS

A detailed chronology of the innovation will be presented, followed by an analysis of its consequences. After a brief look at Troy High School as it is today, an examination will be made of the staff's own views of why the innovation failed, what procedures they felt were utilized in planning and implementing the innovation and what barriers they identified as contributing to its failure.

A. CHRONOLOGY OF THE INNOVATION

1. Planning and Preparation (1964-65)

The Principal of Troy High School joined the staff in July of 1964. He had previously been an assistant principal in the district for six years and he was well known and liked in the community. When he joined the staff of the high school it was suffering from unrest due to stagnation; there was a climate for change although traditionally the district was conservative. The Principal listened to the complaints of the staff, the Superintendent and the School Board and came to the conclusion that the high school program needed updating and modernizing. It seemed to him that an alteration of traditional school day scheduling could be used "as a vehicle for developing programs, utilizing staff talents, student abilities and building facilities to provide a more meaningful learning experience for the students."[6]

The Principal became acquainted with the concept of flexible modular scheduling through three routes. First, he read about the Stanford School Scheduling System, which had been programming flexible scheduling for about ten schools on the west coast; this organization was later hired to do

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[6] Principal's paper, Op. Cit.

Troy's scheduling. Secondly, a Professor of Education at Michigan State University directed the Principal to a book by Bush and Allen[7] which described the merits of flexible scheduling. In addition, the Social Studies Chairman, who kept a file on advances in education, came across an article by Dr. Lloyd Trump which also described flexible scheduling. After she had shared this with the Principal they sent for a film which Trump had developed. The film illustrated flexible scheduling in action and stimulated the viewers; they were impressed with the educational philosophy on which flexible scheduling concepts were founded.

Spurred on by this interest, the Principal received permission from the Superintendent to fly to Chicago in February of 1965 with the Assistant Superintendent and the Business Manager to meet with a representative from Stanford. After the trip they reported back to the Superintendent and School Board, who gave their approval for further explorations with the staff.

In the next stage the Principal met with the Assistant Principal, the Guidance Director and the Department Chairmen, and a collective decision was made to present the innovation to the full staff. The Guidance Director reported to us that the staff approved the idea at once, with 90% in favor of it.

Several presentations were made to the staff using written materials, movies and film strips illustrating the innovation, and departmental meetings were held on a regular basis to discuss the idea. Teachers were given some decision-making power in determining class size and length of classes, and they were involved in curriculum revision and scheduling of large and small group instruction units.

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[7] Robert N. Bush and Dwight W. Allen, A New Design for High School Education, McGraw Hill, New York, 1964.

Teachers had trouble making the decisions required of them and some inter-departmental struggles and resistance to the innovation began to develop. In order to help the staff adjust to these problems, an in-service training program was begun in February of 1965. The Principal's contact at Michigan State was called in to run the program, and the staff was allowed and encouraged to take it for college credit.[8] The program, which was financed with local funds, consisted of one three-hour training session after school each week for ten weeks.

The training program used modified sensitivity training techniques; the instructor felt that a successful structural change in the schedule was dependent upon attitudinal and behavioral change on the part of the staff. It was due to these training sessions that an initial core of resistance and animosity towards flexible scheduling was created.

Nevertheless, the majority of the staff remained in favor of the innovation, and their primary concern was that the innovation should be tried out before full-scale adoption. Since it was felt that an actual trial of flexible scheduling was not feasible, a decision was made to "manipulate the existing master schedule by rotating the class periods."[9] According to this plan, which was put into effect in the spring of 1965, students had five 70-minute class periods a day, with each class moving up one period each day. The schedule thus rotated on a weekly basis. Everyone seemed enthusiastic about this change; both students and teachers found themselves more effective and alert early in the day, and teacher and student motivational problems during the last class of the day were eliminated.

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[8] This arrangement provided an unusual benefit to the staff; on a mailed questionnaire filled out by the Troy Superintendent's office prior to our on-site visit, it was indicated that the usual policy of the school system did not include the payment of tuition for courses taken by the staff. However, one informant told us that college course credit was one factor taken into consideration in recommendations of staff promotions.

[9] Principal's paper, Op. Cit.

In order to further acquaint the staff with innovative techniques a program of staff visitation was undertaken.[10] Every member of the staff made at least one trip to an innovative school, some as far away as Illinois and Kansas. Unfortunately there were no schools within this radius which were using flexible scheduling, but the staff nevertheless viewed the visits as worthwhile and productive, and they felt they learned a lot about what could be done with unscheduled time.

When the staff had had a chance to view other schools as well as experiencing their own rotating schedule experiment, a survey was taken to assess staff attitudes towards proceeding with flexible scheduling. Out of the staff of 50, 31 had positive feelings, 13 were against any alteration, and six were ambivalent. With these results in hand, the Principal again approached the Superintendent and the School Board, and he was given permission "to launch a full scale computer-generated flexible modular schedule for the following September."[11] The Superintendent was out of town at the time the School Board met to approve the program, but he had expressed his approval the preceding week.

At this point a program of orientation for students and parents was begun. The program was explained to the students in an assembly, and the Principal recalls that students also met in small groups for discussion with staff. The staff members whom we interviewed indicated that student preparation was minimal and that they were not advised or trained for the changes which would occur in their learning tasks. The counseling they received was, rather, in the area of course selection. However, the student attitude in the planning stages was enthusiastic, and they endorsed the plan overwhelmingly. The Principal reported that the student decision-making process was simple: "Let's do it - it has to be better than what we have."[12]

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[10] According to Troy's mailed questionnaire, payment of staff travel expenses is the usual policy of the school system.

[11] Principal's paper, Op. Cit.

There were open board meetings which parents could attend to learn about the program, but these were sparsely attended. The primary campaign to inform parents about flexible scheduling consisted of setting up a schedule of meetings to inform them of acts taken to date and to acquaint them with concepts of flexible scheduling. Invitations were sent to parents to meet with faculty, but according to the Guidance Director less than 1% of parents attended these meetings.

The next stage of planning was concerned with the scheduling process. A representative of the Stanford School Scheduling System came to the school to explain how to prepare the schedule. There was some apprehension about the fact that the computer scheduling would be done in California, but during the remainder of the spring the teachers designed their classes and students made their course selections. These were put on punch cards and sent to California.

During the summer of 1965 the staff worked on resolving scheduling conflicts, and towards the end of the summer some drastic curriculum revisions were made in certain departments. Revisions were necessary in the English and Social Studies curricula due to the fact that the classes in these departments would become non-graded in the fall, with students in grades 9 through 12 all attending the same classes. The English department was particularly resentful at the Principal's insistance on this point since they had already voted against adopting the non-graded concept in their department. Few changes were planned or made in the building facilities in preparation for the change to flexible scheduling.

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[12] Principal's paper, Op. Cit.

During the planning phase there was little evidence of contact with outside resources apart from the trainer from Michigan State and the technical advisor from Stanford. The Principal did in fact consult with other outsiders, particularly with principals of nearby schools. One of these men had installed non-graded courses in his school, and the Principal found him to be a valuable resource person. These men met frequently with the Principal as well as with the Michigan State trainer, but the remainder of Troy's staff had no contact with them.

2. The First Year: The Struggle to Adjust (1965-66)

During the first year of operation of flexible modular scheduling the staff worked very hard to adjust to the new program, and students experimented with their new freedom. The first problem which became evident was that students discovered they did not have to attend classes. As one teacher put it, non-attendance became infectious, and soon the central office began receiving complaints from parents about their children cutting classes. The staff tried making speeches to the students, placing them on their honor to attend classes, but this was ineffectual. Later in the year by using punched cards, a sorter and a printer the attendance tracking problem was brought under control, and a modified attendance policy was adopted.

By and large classroom discipline problems moved out of the classrooms and into the halls. In response to pressure to get students out of the halls those who received three or more failing grades were placed in study halls during their unscheduled time. Some of the staff members felt that much of the confusion associated with the new system could be eliminated if an open campus policy could be initiated. However, the high school had tried an open campus lunch hour two years previously and this had been met with complaints from the community. There was no place the students could really go off campus and the complaints centered around their "riding around and littering the neighborhood". The School Board was thus opposed to any new open campus plan, and students were confined to the building whether in class or not.

The Kettering Foundation grant which was received during this first year was viewed as a mixed blessing. It was secured through contacts of the Michigan State trainer, and the school was proud to have been chosen as one of the eleven I/D/E/A demonstration schools. News of Troy's innovation spread to educators across the country through newspapers, conferences and national and state conventions of educators. A booklet about the innovation was prepared using funds from the grant, and this was widely distributed. One condition imposed by the grant was that the school should open up its results to troops of visitors who came to the school. The Assistant Principal, who shared a large part of the responsibility of conducting tours, felt that he would have welcomed teams of researchers, but he was dismayed that entire school staffs as well as students were flocking to Troy. Though the grant also funded a research director there is no evidence that any significant evaluation was conducted or reports written.

The impression of all our respondents was that the entire staff worked very hard in the first year to make the innovation a success, and in fact if this case study had been written on the basis of the first year's experience it would have concluded that the innovation was successful. Although a few were unhappy, a large majority of the staff remained solidly behind the innovation. Nearly half of them were so involved and dedicated that they voluntarily stayed after school almost every day to discuss the program and formulate plans. A tightly knit and dedicated subgroup of about twenty emerged, including teachers from all the academic departments and counselors. One teacher who had been a member confessed retrospectively that they may have been too wrapped up in visions of change.

The scheduling itself was felt by only a few people to be a problem. There were some objections to the spacing of classes in certain courses, and some students found a conflict in time for courses they wanted to take. Still the only real problems openly voiced during the first year were summed up by the Principal as: "1) making sure students do all their work, and 2) controlling free period loafing."[13]

Nevertheless, there were some rumblings of discontent. The staff felt that they received little support from the Superintendent. He first appeared to divorce himself from the program although he received copies of all written materials and engaged in many conversations with the staff. He began to involve himself by initiating meetings with the Principal and the School Board only after parental complaints started coming in.

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[13] Daily Tribune of Royal Oak, January 24, 1966.

The staff also began having feelings of doubt about the Principal. He professed to wanting to involve them in decision-making and he would solicit their opinions. It seemed to some of the staff, however, that he rarely acted on these suggestions. One spokesmen said that teachers began to feel suspicious of the Michigan State trainer, feeling that he was the only person to whom the Principal really turned for advice.

It was at the end of this first year that the Assistant Principal left to take another position in Troy. He continued to work closely with the Principal, but he did express some feelings of relief at being out from under the pressure.

3. The Second Year: Developing Controversy (1966-67)

Several alterations were made in the program as it moved into its second year of operation. The amount of scheduled class time for students was increased from 50% to 60%, and there was more pressure put on students to attend classes. In the math department, for example, students were practically ordered to attend classes and attendance was in fact nearly 100%. Different teachers had different opinions as to the wisdom of these moves, some describing the program as better in the second year and others describing it as worse.

The math department was happy in any event. They were given their own office where there were ten desks for teachers and individual study carrels for students. Students came and went freely and there was an open and informal atmosphere which pleased both students and faculty. The math department also solved a problem it had encountered in utilizing the one hour lecture period. With the advice of the Coordinator of Math for Oakland County Schools, they changed their weekly class pattern to an arrangement of two 30-minute periods and three 45-minute periods.

The most significant changes in the program during the second year were the addition of the Cluster A and Cluster C programs. The Cluster A speakers program caused controversy not only in the school but also in the community. It was rumored at one point that George Lincoln Rockwell[14] had been to the school (which he had not) and some citizens were so horrified that the School Board voted to discontinue the program. The Principal asked for an open meeting so that the parents could decide; about 300 attended and supported the program, so the Board reinstated Cluster A by a vote of 4-3. However, when John Sinclair[15] made an appearance toward the end of the school year, the evening paper carried a story on it which further disturbed the citizens. As the year ended the Central Office and the School Board were deluged with phone calls protesting the incident.

The Principal described the adoption of the Cluster C training program as the first decision he made in which he did not involve the entire staff, and he admits this was a tactical error. It particularly did not sit well with the guidance department; two new counselors who were brought in by the Administrative Intern to help run the program were soon in conflict with the rest of the guidance office staff. Teachers who were already piqued at not having shared in the planning of the program were further annoyed at the student trainees' behavior in their classes and rumors of what went on in the training sessions abounded. The dissatisfied teachers brought their complaints to the School Board, which halted the program at the end of March. The Principal again used his powers of persuasion, and despite division on the Board, that program also was reinstated in the middle of April.

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[14] George Lincoln Rockwell was the leader of the American Nazi Party.

[15] John Sinclair is founder of the "White Panthers", a radical left-wing group in Ann Arbor, Michigan.

By this time, however, the faculty was deeply split and the conflict became quite personal. The staff began to react to their feelings of not having been involved in decisions, and everyone felt compelled to take a stand. Small incidents were blown up out of all proportion and rumors flew. First, the dissident teachers and then those who supported the innovation met secretly with the Board of Education, and the community soon caught wind of the tension at the high school. Large numbers of citizens began attending open School Board meetings and soon the Board was caught in the middle of the controversy. In an attempt to assess the situation the Board asked the Assistant Superintendent to investigate the High School. He spent three weeks observing the school, and although the opinions he expressed to the Principal were positive, the Principal felt he did not support him in meetings with the Board. The school year ended with both the school and the community in an uproar, and the issues did not die down over the summer.

4. The Hot Summer of 1967

Over the summer of 1967 the Daily Tribune of Royal Oak carried many items concerning the situation at Troy High School. The first of these was a page of letters to the editor in which staff, students and parents expressed their feelings about flexible scheduling and the way in which it was being handled. The Social Studies Chairman explained her defection by criticizing excessive permissiveness, adding that "Our present day situation is due to a mindless adherence to misunderstood principles".[16] Other writers felt it was the Principal who was misunderstood; two students wrote: "when many of the good points in the modular schedule were brought out, (the Principal) wasn't praised, but now when it gets rough, it's all his fault."[17]

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[16] Daily Tribune of Royal Oak, June 20, 1967.

[17] Ibid.

It was in fact the Principal who was blamed for the school's problems and he himself feels that the root of the controversy was the Cluster C program. On June 13, after a two-hour executive session with the Principal, the Board placed him on a one-year probation. This was a compromise arrived at when a motion to fire the Principal (a motion backed by dissident teachers) failed to pass by a 4-3 vote. The terms of the probation were that all students should attend classes and that the Cluster C program be discontinued. The Principal agreed to these conditions, but as the summer wore on he became more and more fatigued from the battle. In July the School Board voted against accepting a three-year grant of $120,000 which had already been approved for funding by the U.S. Office of Education. This grant would have provided for in-service training for staff and the conducting of research and evaluation studies. Nor was the Kettering grant renewed (the Board felt the school had been too much like a fish bowl) and the Principal felt that without these funds he could make no evaluation of the program to establish its merits.

Adding to the troubles of the program, the Board made further cuts in the high school budget. Early in the summer the taxpayers voted down another in a series of school millage proposals, and this was attributed by the press to conditions at the high school. In this same election one school board seat changed hands, and the dissident staff members saw this as a new opportunity to force the Principal out. By another vote of 4-3 he was retained, but the Board was not indicating by this that they supported th program. In August they decided to call in a team of investigators from the Michigan Education Association to evaluate flexible scheduling.

During this difficult summer the Assistant Superintendent was out of town and escaped the controversy; the Superintendent, however, was caught up in it. Criticisms were directed at him not because of the program itself but because of his handling of personnel. The teachers' contract called for their complaints to be filed with the School Board and for meetings which were held to include the entire staff. The Superintendent made the mistake of meeting privately with separate factions of the faculty. This information soon leaked out and the wrath of the teachers began to be directed towards him.

5. The Third Year: Retrenchment (1967-68)

As school opened in the fall of 1967 there was tension and dissatisfaction in all quarters. The faculty was divided, the Superintendent was under attack, and the Principal was on probation. It was not a happy way to start the school year, and the report of the MEA investigators which was released in mid-September did not do much to ease bruised feelings.

The report cited the Principal for not blending various elements of the faculty into a harmonious working whole and for becoming "indoctrinated" to new concepts and dedicated to achieving changes "without sufficient regard to the consequences that this dedication would have on the faculty and eventually on the students."[18] The Superintendent was cited for not seeming "to understand the high school program to the fullest extent"[19] and for giving the Principal too free a hand in conducting the affairs of the high school.

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[18] Daily Tribune of Royal Oak, September 15, 1967.

[19] Ibid.

The Assistant Superintendent was found to be ineffectual (and unnecessary) as a link between the Principal and the Superintendent. The Troy Education Association was cited for not assuming its responsibilities in mediating the dispute. The committee also felt the flexible program suffered from lack of proper preparation, lack of student and parent orientation, inadequate facilities and having moved too far too fast. However, the investigator felt the major source of the problem was a communications breakdown at all levels.

Despite these indictments, the MEA team still felt that flexible scheduling should be continued in Troy. The only concern they expressed about the program itself was centered around the extent to which students had to make their own decisions. A structured program was recommended for those students who needed it; these students, it was suggested, could gradually be phased into the flexible program as they became prepared to assume more responsibility.

By the time this report was released, the Principal had already decided to resign from the school system. He felt that his program was doomed, and he was tired of the controversy. He resigned at the end of September when he was offered a job which he felt would provide greater freedom for creativity.

The new Principal who took over on October 1, 1967, was described as a traditionalist, and it was felt that he aligned himself with the dissident teachers in the controversy over flexible scheduling. Some of the teachers who supported the program felt that the new principal was following them around in an attempt to build a case against them. Whether or not he went to these extremes is open to question, but he was openly vocal in arguing with the School Board that the school should return to traditional scheduling. The Board was not willing to take this step so hastily; they wanted an evaluation made of the program first.

Among advocates, the general feeling in the school during the 1967-68 year was that there was a general retrenchment and an emasculation of the program. One teacher commented that the time scheduling was still there, but that was just the bones; all the meat was gone. More of the students' time was scheduled in classes, and this was partly necessitated by the fact that the school building was by then quite overcrowded. Departments which the previous year had enjoyed their own offices now had to give these up to be turned into classrooms. None of the staff was happy, but they had calmed down.

In January of 1968 the evaluation authorized by the School Board was carried out. The evaluating team consisted of three teachers, three administrators and several "interested citizens." The surprising results of this study were that 81% of teachers preferred flexible scheduling. The School Board, still caught between Principal and staff, put off making any decisions about the fate of the program.

In June, a team of University of Michigan educators conducted another evaluation of the program. This team, concentrating on the program rather than the controversy, returned a more favorable report than did the MEA team. It endorsed the principles of flexible scheduling and stated that Troy had done quite well in taking advantage of the opportunities offered by it. The report did caution that some things still had to be worked out and added that there seemed to be some question about the direction the program would take. In conclusion the team found that, overall, teachers and students favored the program, but that more community education should be given on it.

6. The Fourth Year and the Phasing Out (1968-70)

The fourth year of the program opened fairly quietly; dissatisfaction among the staff was at least not out in the open. The community was still uncertain, however, and the Superintendent made the decision to resign, feeling that he could not be effective in a school district which distrusted him. He had in fact been accused of mishandling funds, but this charge was never substantiated. The school staff all agreed he was honest, whether or not they agreed with his method of handling the program.

The quiet ended in the spring of the year however, when disconcerting test results were released to the public; scores of students who had taken the Iowa Achievement test four times were declining. Tests were administered to a group of students in the spring of each year (1966 through 1969) as they moved from the ninth grade to the twelfth in order to evaluate the new program. The tests were ordinarily administered only to students in the eleventh grade. The former Principal came back to defend the scores of the test group in a School Board meeting. He contended that since scores of eleventh graders taking the test as a normal part of the school program were increasing, there "was some doubt about the motivational efforts of the data group."[20]

On top of the test scores issue, the new Principal argued that the school system could not afford the program. He contended that it cost 10%

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[20] Principal's paper, Op. Cit.

more to run a flexible program than a traditional program, and the taxpayers, who had been consistently voting against millage proposals, seemed in no mood to give the extra support needed. The School Board members finally felt they had sufficient evidence to vote the flexible scheduling program out of existence and they did just that in March of 1969.

The matter did not rest there, however. Eighty-eight percent of students were reported to be in favor of the program and a large number of parents demanded that the Board reconsider its decision. A week later, after a public hearing, the board reversed itself and reinstated the program for the coming year for those students in the 11th and 12th grades who wanted it.

In the fall of 1969 the high school went onto dual sessions because of overcrowding, with the 11th and 12th graders attending morning sessions and the 9th and 10th graders attending in the afternoon. For that year parents of the morning students could write notes stating whether they wanted their children on flexible or on traditional scheduling. Although parents had strong feelings in this matter, most of them left the decision up to their children. Eighty percent of students elected flexible scheduling.

At the end of the 1969-70 school year the Board voted to return all students to traditional scheduling in the fall. The rationale given was that the building additions would be complete by the spring of that year, and all students would have to be on the same type of scheduling when dual sessions ended. The innovation just petered out and its supporters had no desire to fight for it any longer. Many of the staff expressed feelings of relief that the controversy at last was over.

B. CONSEQUENCES

As may be seen from the above chronology, the consequences of Troy's adoption of flexible modular scheduling were far-reaching, affecting every member of the school and the community. Many of the effects were anticipated and desirable, but on balance these were outweighed by those consequences which were unexpected and undesirable. In the section which follows we will discuss these consequences in detail.

1. Consequences for Students

a. Unscheduled time

The part of the program which had the greatest impact on the majority of students was the unscheduled time which they were allowed. Some students learned to plan this time effectively and, among these students, those who later went on to college reported that this was a valuable experience in planning for the responsibilities which college demanded of them. As indicated earlier however, most students were unprepared to meet this challenge. The halls were continuously crowded with milling masses of students, and the lounge was always filled. The library and laboratories, on the other hand, were rarely filled to capacity. It was noted by a number of our respondents that the school facilities were in fact insufficient for the program as planned. One informant indicated that in the beginning these facilities were overcrowded and long lines discouraged students from trying to get into the labs and library. By the time this problem was worked out the students were already "lost" and would not return. Vandalism was also reported as very high, taking a sharp upwards turn as soon as flexible modular scheduling was installed. At the end of the first marking period those students with three or more failing grades were placed in study halls during unscheduled time, as were some students who had had disciplinary problems. During the second year of flexible scheduling an attempt was made to schedule at least 60% of time for each student in classes, and in subsequent years this percentage became even higher. We can conclude that unscheduled time did not work out satisfactorily.

b. Optional Attendance

Adding to the sense of physical confusion during the first year was the open attendance policy; many students began cutting classes, which of course added to the numbers milling in the halls. This policy had not been planned as a part of the new program, but rather it developed because no method had been designed for keeping track of attendance. Students soon discovered that if they missed a class nothing happened. Later in the year when a method for taking attendance was developed students were still allowed considerable leniency in class attendance. After they had missed three classes in one week a note was sent to their parents, but no disciplinary action was taken. This seemed to be acceptable to many of the parents since they were not eager to have their children suspended. Other parents remained puzzled; they couldn't understand how a child could be in school but not be attending classes.

c. Student Attitudes

Although others may have been distressed by these conditions, 80% of the students themselves were found to be in support of the innovation. The student support was partly due to the fact that many of them appreciated the extra time they had for socializing; unscheduled time was referred to as "free" time. On the more positive side, many students actually received the benefits which had been anticipated for them. One teacher reported that the school began to become real and to be related to things the students themselves felt were important. Another teacher reported that in his cluster informal contacts with students were extremely rewarding. He found that students would gather around the cluster during unscheduled time for a "rap session" with teachers even though he found these same students unwilling to enter into this kind of interaction during class time. The Guidance Director found that there was an increase in the number of students seeking counseling, and she attributed this to the fact that students were free to come to the Guidance Office at any time and did not have to have a note from a teacher excusing them from class. On the whole the students experienced a great deal of freedom and most of them appeared to thrive on it.

d. Student Performance

An area more difficult to evaluate than the students' attitudes was their academic performance. The Curriculum Director reported that there was no orderly way that an evaluation could be made. As mentioned above, an attempt was made to use the Iowa Achievement Tests for evaluation, but for several reasons this didn't work out. The Principal stated that the reason the test scores went down was that the students simply became more bored with the lengthy form each time they took it; the Curriculum Director felt that the test simply wasn't testing what the school was trying to teach.

The general feeling of the school staff was that the "good" students did beautifully (about 25% of the student population), but this perception was not shared by all teachers. A math teacher felt that perhaps flexible scheduling had different effects on math grades than in other areas. She reported that some of the students who had been at the top of their math class under traditional teaching tumbled rapidly to the bottom during flexible scheduling.

From the point of view of a student, 60% of students liked flexible scheduling and benefitted academically; he felt that this group either earned better grades or learned more. He felt that another 20% who did not like learning and had no interest in school were pleased with flexible scheduling because now that they had free time they could do what they wanted. The remaining 20% of students were those who needed more structure and felt alienated, unhappy and isolated under the flexible program.

e. "Cluster C"

The Cluster C program (sensitivity groups for students with behavior and learning problems) was able to accomodate only 50 students, or 4% of the student body, but it had a great impact on these students. They became more open in all their classes and began to enjoy school, and their behavior problems were considerably lessened. In the two weeks before Cluster C started, 35 of these students had been sent to the Assistant Principal for disciplinary action; in the first six weeks of Cluster C only six of them wound up in his office.

f. Course Selection

According to most of our respondents the students were pleased with the expanded curriculum offerings and were able to fit into their schedules the courses which appealed to them. One teacher did mention, however, that at times the scheduling of courses presented problems, and she illustrated this criticism by saying that one year the only class in calculus was scheduled at the same time as the final year of physics. She pointed out that the same students would have liked to have taken both of these courses. A further problem was related to non-graded courses; since scheduling was done only one year at a time, some students found that the only course available to them in a particular department might be one they had taken a previous year.

g. Differential Adaptation

One surprise to the faculty was that freshmen adapted more readily to the new program than did seniors. The expectation had been that seniors, being most mature, would be best able to handle the new responsibilities. Apparently, however, freshmen had expected to encounter new things when entering high school, whereas seniors had become accustomed to a traditional schedule.

2. Consequences for Teachers

Teachers began to feel the effects of the flexible scheduling program in the spring of 1965 when the in-service training program was provided for the entire staff. There were significant consequences for teachers at all stages of the program, but the spring of 1967 proved to be the most critical period.

a. The In-Service Training Program

Teachers voted to institute flexible scheduling early in 1965 and entered into the in-service training program in a spirit of adventure and anticipation. This training program was not, however, what most had expected. Teachers had many questions about the operation of the innovation and their role in it, but the training program was run much as a sensitivity training program. Some teachers enjoyed it and developed new modes of interpersonal behavior. Other teachers were confused, and even though they had originally supported the new venture they now approached it with feelings of antagonism; objections to the training method turned some staff against the innovation itself. One staff participant reported her perception that the trainer was flippant and insulting in response to what trainees felt were valid questions.

b. Curriculum Revision

Development of new curricula was the first hurdle the teachers had to cross as the new term approached. Some teachers approached this task with enthusiasm, and one teacher reported it as an extremely rewarding undertaking. He felt that all teachers learned a lot through the struggle and effort and for the first time could move into areas in which they were personally interested, but which were impossible to include in standard teaching schedules. Other teachers felt coerced; one respondent reported that much against the will of the English department the entire curriculum had to be redesigned in a short period of time to accomodate non-graded classes and to eliminate textbooks. Still other teachers did not attempt curriculum revision and it soon turned out that since the old lesson plans were not adapted to the new arrangement, the classes of these teachers were lagging behind others.

c. Operational Aspects

Adjustment to the new scheduling came more naturally in some departments than in others. The art, home economics, shop and business departments were enthusiastic; in these areas the advantages of long stretches of class time were evident and the results were correspondingly good. The Social Sciences and language departments adjusted relatively smoothly, whereas the science department had some reservations and the math department was resistant.

The adjustment to team teaching was difficult for many teachers; they simply were not accustomed to sharing ideas and course plans and they received no orientation in this aspect of the program. Another stumbling block was the physical space assignments of teachers. Rather than each teacher having his own room, teachers were shuffled from one room to another for their classes and were assigned to cluster areas during their unscheduled time. Many teachers felt displaced and irritated at this, although in retrospect one teacher commented that she had enjoyed the interaction with other teachers as she moved from one area of the school to another.

Further complaints arose over the scheduling. The intent in academic courses was to have a large lecture period early in the week which was to be followed later in the week by small discussion groups. In one course the large lecture was scheduled on Monday, with discussions scheduled either immediately after the lecture or on Friday. Our respondent in this area felt that students had no time to prepare for the Monday discussion group whereas too much time intervened before the Friday groups.

Many teachers felt they needed further assistance in adjusting to the program, and concern developed over the fact that the initial training program was not followed by additional training sessions. A further problem was that since the school was growing rapidly and there was a fairly high teacher turnover, the many new teachers who were added to the staff received no orientation or training whatsoever.

These were all problems with which the staff felt they could cope; although many were having a difficult time they still felt dedicated to the principles of flexible scheduling and were determined to do their best to make it work. However, there were other issues concerning atmosphere, policies and events, which had a greater impact on teachers than did the adjustment to the operational aspects of the program.

d. The School Atmosphere

Although a new atmosphere of openness, informality and a relaxation of traditional standards of student behavior was anticipated by the staff, it still took many by surprise and reactions were mixed. Given the fact that a class was beginning and ending every 15 minutes and that 50% of students were out of class at all times, it was natural that there would always be students walking the halls despite how they utilized their unscheduled time. The Principal put the general reaction of the staff this way: "Agreeing during the planning stage was distinctly different from seeing the consequences of our decisions in action. The effect of seeing students walking around is very upsetting to people not accustomed to seeing a school operating this way."[21]

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[21] Principal's paper, Op. Cit.

The most pervasive aspect of the new atmosphere was informality. Both during small group discussion periods and during unscheduled time teachers were expected to interact openly with students, an approach alien to many traditional teachers. The Assistant Principal felt that many teachers simply did not know how to relate to students.

The perceptions of a student in this regard are very telling. He felt that out of resistance, teachers were not making themselves available during their unscheduled time, or that they were rejecting when students did seek them out. He also felt that many teachers felt personally threatened and could not cope with the situation, could not gain the acceptance of the students and were not popular or chosen for help; this in turn made them even more insecure. He added that since the teachers did not have a conceptual framework or intuitive sensing for the possibility of open learning situations, their attitudes turned against the innovation in order to defend themselves.

The picture is not all bleak, however. There were in fact a substantial number of teachers who thrived and blossomed under the new system. One of our respondents reported that as a result of this experience he had the opportunity to get to know and to appreciate kids. He felt more relaxed in class with them and has gained a new respect for them. This attitude was of course shared by a number of teachers, and it is not surprising that a rift developed between those teachers who adapted and those who did not.

e. Controversial Policies

Optional attendance was one of the most difficult policies under the new program for teachers to accept. In some cases non-attendance was so high that a class simply wasn't held; no students had shown up. This in the opinion of many teachers violated the principle of good education: when kids roam the halls they are not learning - learning can only take place in the classroom.

The problem went deeper than a disagreement over educational philosophy; some teachers were deeply and personally hurt. Students began choosing to attend classes not only on the basis of the interest they had in a particular course but also on the basis of how a course was being taught. One teacher described the situation in the following terms: Mr. X and Mr. Y might be teaching the same subject across the hall from each other at the same time, and all the students from both classes might choose to attend Mr. Y's class, leaving Mr. X in an empty room.

When teachers met informally, some began to ask "What are we going to do with all these kids who are not coming to class?" When they were met with a response to the effect "What are you going to do about the class those kids are skipping?", this silenced them, but it did not solve the problem. Those teachers were then afraid to talk about their problem, but they didn't know what to do about it.

A second policy which caused a deep division among the faculty was what many referred to as "permissiveness". One staff member who originally had advocated flexible scheduling began to turn against it as early as the in-service training program. She felt that the trainer was preaching a permissiveness which she couldn't condone. She later wrote:

> "Permissiveness was originally meant to foster greater respect and democracy in the home between children and parents...It was never meant to enthrone the child in father's chair. But at Troy we have abandoned the parental role and have told the child, in effect, 'anything goes'. Complete freedom results in chaos. That is what we have."[22]

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[22] Daily Tribune of Royal Oak, June 20, 1967.

Although permissiveness was a divisive issue it was an intentional policy which its advocates felt would result in benefits only after a period of adjustment on the part of the students. The Principal described it as a "love 'em back" approach which threw students off-guard at first but which they appreciated and respected once they knew the teachers meant it. It was intended to serve as a mechanism for instilling internal rather than external controls.

The Assistant Principal noted results of this policy in concrete behavioral terms. When the "problem" students first found themselves free to wander the halls they "sat around carving in the furniture." Later on they still sat around the halls, but they no longer did any carving.

A final policy which concerned many teachers was a new approach to grading which was adopted by some. When a few teachers began handing out all A's to their students there was quite an uproar. The Principal pointed out, however, that when a typing instructor gave C's to all his students no one appeared to object.

f. Divisive Programs

We described above three special programs which were of particula significance. Although their effects were many, and often beneficial, their main impact was to create a decisive rift between faculty supporters and dissidents.

The Kettering workshop sponsored for students and staff at the end of the 1965-66 school year marked the beginning of the open split between staff which came to a head during the following school year. As sometimes happens in sensitivity training sessions, not everyone was strong enough to handle the intensity of the experience. Rumors concerning this event circulated, and battle lines began to be drawn.

The Cluster C program was credited by most of our respondents with bringing the faculty controversy to a head. Even today there is disagreement over two important points: first, whether the faculty in charge of this program had appropriate training to be sensitivity group leaders, and, second, whether or not the training sessions took place in class time. We can only guess that on the first point the leaders had had group work experience, but had not necessarily received training to be trainers. On the second point we think that the actual training sessions took place during unscheduled time but that the group process was carried over, certainly by students, and perhaps by faculty, into other class sessions.

In any event some faculty members were antagonized by the openness of the student trainees during their scheduled classes, and many teachers were also highly distressed at what they considered to be inappropriate behavior during training sessions. Rumors began to fly about this program, but the supporters of the program dismiss them as misinterpretations of demonstrations of warmth towards teachers on the part of the students. How these rumors started is illustrated by an example which the Principal gave of one incident:

> "On the last day of school, one of the Cluster C groups decided to hug their teacher to say goodbye. For these students, it was tantamount to hugging a policeman. Unfortunately, three faculty members, opposed to the program, witnessed the ceremony. This, of course, reinforced their belief that this was indeed a questionable program, run in an unprofessional way, with incompetent, immoral teachers."[23]

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[23] Principal's paper, Op. Cit.

The Cluster A program rubbed salt in the wounds of the teachers who were unhappy. There was considerable distress over the fact that students became animated and involved when outside speakers came in, to an extent they did not approach in the classroom or in other contact with the teachers. A student's perception was that teachers did not like outsiders to have so much popularity and those against flexible scheduling took advantage of incidences of four-letter words and the use of bad language to discredit the program.

The teachers had further cause to be annoyed about this program, since it was common practice for students to cut classes in order to hear the guest speakers.

g. Teacher Attitudes

A student saw very well into the basic problem which Troy encountered with flexible scheduling. He commented:

> "The scheduling in itself is not the real problem for a school; the technical aspects are not a problem. The difficulty in this innovation lies rather in the attitude change which is necessary for many, in the new orientation and perception of human beings, social situations, community and the role of the school and teacher as well as what learning is." [24]

It is our feeling that too many teachers did not recognize that a shift in attitude was necessary for flexible scheduling to be successful, and they did in fact separate the technical side of the issue from the attitudinal side. At the outset of the innovation the staff was nearly 100% behind it. To this day, most of the staff claims to have favored flexible scheduling all along, but feels the controversy developed over the handling of it. In January of 1968, following the hottest period of controversy, the Daily Tribune of Royal Oak reported that 81% of teachers preferred flexible scheduling.

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[24] Interview with a student

One teacher reported that in the first year one or two staff members left the school because of a dislike of flexible scheduling. After the open controversy developed two or three left due to the controversy itself.

During the period of intense controversy, the second year of operation of flexible scheduling, the staff was divided into three camps. One third favored the innovation and were very vocal in its behalf. They met regularly and voluntarily after school to discuss the program and were highly involved. Another third were described as being against the program; the majority of them disagreed with the handling of it and with specific policies such as permissiveness, while only a small hard core was felt to be solidly against "the innovation itself". The final third of the faculty was described as vacillating in the middle, sometimes hotly opposing or defending specific elements of the program.

There was some disagreement among our respondents as to what personal characteristics of teachers predisposed them to advocacy or dissidence. The Assistant Superintendent suggested that older teachers were upset with the lack of discipline under flexible scheduling. However, the Guidance Director felt that personality was a more important determinant than age. She felt that for some of the older teachers their years of experience in the classroom enabled them to understand and relate better to students.

On the whole our respondents felt that teachers in all camps developed important new attitudes as a result of the experience. Among the observations made were that teachers learned that the recipients were more important than the materials, and that although you may cover more material when teaching by traditional methods a lot is lost in terms of contact with students and student involvement and independence.

Finally, it should be noted that the innovation also had the effect of attracting new teachers who considered it valuable and worthwhile and to whom the freedom and responsibility given to students seemed to meet their concept of good education.

3. Consequences for the Administration

All of the administration were effected by the innovation, but to varying degrees. The school board was caught in the middle of the strife, and they vacillated according to which faction displayed the most strength at each meeting. The Assistant Principal worked closely with the Principal on the program, but although he felt under pressure he did not experience any severe consequences. He moved to a post in another Troy school in the summer of 1966 and reported that although he did not leave because of the high school situation, he was nevertheless glad to get out.

The Principal and the Superintendent were most strongly affected by the new program. The immediate effect upon the Principal was nation-wide recognition. Partly as a result of the Kettering-sponsored dissemination efforts, visitors were flocking to the school from across the country. The Principal admits that the widespread acclaim from outside the school district may have dulled his perception of the troubles brewing at home. Since he was the initiator of the innovation and its key advocate, he naturally came in for the brunt of the criticism when turmoil began. As was mentioned earlier, dissident teachers called for him to be fired, but in the summer of 1967 the school board compromised and put him on a one-year probation. Although he agreed to the terms of this edict,the program seemed to him to be emasculated by this time, and he left the Troy schools in September of 1967 when an attractive offer was presented to him for a job elsewhere.

The Superintendent also resigned his post as a consequence of the flexible scheduling controversy, but his contribution to the program is not as clear as that of the Principal. He himself had reservations about the program; he disliked seeing students in the halls and he disapproved of the Cluster C program. But he was made a scapegoat along with the Principal and was caught up in the back-lash to the Principal. He felt eventually that there were too many bad feelings about him in the community,and he resigned in 1968.

4. Consequences for Parents and the Community

The greatest concern voiced by parents was over the optional attendance policy. The school received complaints from parents as soon as children began reporting to them about the new policy. Most parents were satisfied when the modified attendance plan was initiated (under which parents received notices when children had missed three or more classes a week), but for others it ran counter to their values about school and education. The Principal reported that he frequently heard such statements from parents as: "Learning takes place in a classroom with a teacher and a book, so how in the world can a student learn if he isn't in class." Rumor sometimes made non-attendance seem more pervasive than it actually was. One parent complained that her child did nothing all day but watch television. In fact, according to one source, a television had been brought into the student lounge on only one occasion and that was so the students could watch the launching of a manned space flight. Parents were also disturbed about reports they received on the Cluster A program; they complained that immorality was being practiced and supported, and, as a result of parental complaints, outsiders were no longer allowed to come into the school.

Parents were also disconcerted when the results of the Iowa Achievement Tests became known. On the other hand, parents of students in the Cluster C program felt very favorable toward it. Here they could actually observe improved behavior in their children.

In the spring of 1968 (the third year of the program) a survey was made, during parent-teacher conferences, of parents' attitudes towards flexible scheduling. Although 55% of them expressed support for the program, 85% also expressed concern over specific aspects of it.

The community as a whole as well as parents became involved in the flexible scheduling controversy. The program immediately presented a bad image to the community since all they could see when they visited the school was students roaming the halls. Whereas parents of Cluster C students approved of that program, the rest of the community was fed rumors about psychiatry being practiced by amateurs, and this naturally had a very negative effect. The community also heard unfavorably of the Cluster A speakers program, and as tensions began to mount in the spring of 1967, every board meeting session overflowed with concerned citizens. One way in which the community has influence over the schools is, of course, by controlling the purse strings. In the 1967-68 school year four elections were held before the basic operating millage for the school system was approved. The Daily Tribune of Royal Oak attributed this to community dissatisfaction with conditions at the high school, but the principal disagrees. He contends that Troy has a long history of voting down tax proposals and that there was nothing particularly unusual about community behavior during that particular year.[25] We cannot make that judgment ourselves, but we can only observe that the community was not expressing hearty support of the school system.

5. Visitors to the School

We have already mentioned the large number of people who came to observe the innovation at Troy; these included students as well as educators at every professional level. Although the school was proud to receive such attention, the visitors were, on the whole, regarded as somewhat of a nuisance. Staff members spent much time conducting visitors around the school, and in almost all cases an interview with the Principal or Assistant Principal was expected. Students and teachers had mixed reactions to the continuous flow of curious onlookers through their classrooms. One teacher reported that students were uncomfortable when visitors would peer through the door; the students would get up and invite the visitors to participate in the class. A student remarked that many of these people could have been valuable as learning resources but that teachers and students were not inventive enough to "exploit" them.

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[25] On the mailed questionnaire it was indicated that during the 1970-71 school year Troy experienced "some difficulty" in gaining citizen support for the maintenance of existing school operations.

C. THE AFTERMATH

Two years after the final disappearance of flexible scheduling the innovation is still a sensitive issue in Troy, both in the school and in the community. There is consensus that at least half the staff would like to have flexible scheduling back again; there are no factions and no fighting, but there remains a small hard core firmly against it. The topic is generally carefully avoided by staff on both sides of the issue; the staff does not want to be caught up in another controversy. Because of this reticence, however, there exists a lack of communication among staff members.

Although some community members were appeased when the Principal left, he still has strong support from other portions of the community. One of our respondents commented that people still use someone's position for or against the Principal as a measure of his political attitudes.

Although the flexible program is gone, there is a feeling that a number of its beneficial effects have remained. The attitudes of many teachers have changed, and there is a general recognition that the recipient of education (the is more important than the materials being taught him. There is also some increased understanding of the principles of change as a technique. Finally, many of the curricular innovations have been kept. Teachers who revised their curricula and adopted new teaching methods have retained these changes, and the students still have the wide range of courses from which to choose.

In the fall of 1972, Troy High School adopted unit step mini-courses; in some areas ten-week courses are offered, while semester or full year courses are still offered in other areas. There is some question as to whether or not sufficient planning time was allowed for this innovation and whether or not the staff was involved in the planning and decision-making. Some of the mini-courses have been successful and well received; a mini-course on "Election 72" which ended just prior to the November presidential election was well timed and popular. However, one teacher commented that the main advantage of mini-courses is that teachers and students do not have time to get sick of each other in just ten weeks. A decided disadvantage is that scheduling of courses must be repeated every ten weeks. Teachers who were supportive of the flexible scheduling program feel that mini-courses have none of the benefits of flexible scheduling; one teacher regretted the lack of openness in class under the new program, and another teacher commented that mini-courses simply were not very exciting. Finally, one teacher bemoaned the fact that he felt the school today is run in an authoritarian manner with no freedom for movement. Whether or not there is truth to this claim, it is true that Troy High School is now exercising some caution in adopting innovations. Mini-courses may not be exciting to many people, but neither are they radical; the community is unlikely to be caught up in controversy over this innovation.

D. REASONS FOR FAILURE: THE STAFF'S SELF-ANALYSIS

Different staff members cited different causes for the ultimate failure of flexible scheduling in Troy. Inadequate planning of the innovation was seen by some of our respondents as being at the root of the problem. Although the social climate was ripe for some innovation, the community was not ready for one so radical, and not enough groundwork was laid for its acceptance. One administrator regretted the fact that no newsletter had been used to keep the parents informed; he commented that communication with parents was basically through students or through newspaper releases which were read by few parents. The criticism was also made that the administration and staff had no clear goal-image when they initiated the innovation. Finally, in the area of program planning, it was felt that teachers did not receive adequate training in relating to students on a one-to-one basis.

The innovation itself came in for criticism on a number of points. There was a feeling that the innovation was too radical, that too many new things were tried at once, and, in general, that the program moved too far too fast. One aspect of the program which was specifically cited as a problem was the large amount of unscheduled time. It was also felt that the program was not flexible enough to handle students with different motivational levels and that parents and students should have been given an option to select either a flexible or a traditional scheduling pattern. None of our respondents felt that the innovative Cluster A and Cluster C programs were causes of the failure.

The remainder of the criticisms were of the personnel involved in the innovation. The Principal was viewed as not exercising a proper degree of leadership, and it was felt that some of the staff were too wrapped up in the innovation to view it objectively. Finally, it was noted that there was inadequate communication among staff at all levels.

The facilities were noted by one respondent as being inadequate but their adequacy was also defended by one person. As we mentioned above, the facilities might have presented more of a problem than they did if students had utilized them in the manner anticipated.

Several additional comments of our respondents are also of interest here. Although one teacher felt that the Iowa Achievement Test scores, which declined steadily over four years of experimental testing, should have been used sooner as a means of evaluating the program (negatively), another teacher felt that a program of the complexity of modular scheduling should be allowed a longer period of operation, than was the case, before evaluations were made. Some staff members were philosophical about the problems encountered; we received comments to the effect that "you have to expect problems to occur when you undertake change", "Troy could not have anticipated the problems which arose", and "the same problems would have cropped up if any other innovation had been attempted".

None of our respondents indicated they would advise other schools to adopt flexible scheduling unless significant alterations were made either in the process of innovation or in the innovation itself. In the process area it was advised that a long planning period of at least two years should precede adoption, that teachers and administrators should be fully commited to the innovation, that students and community should be involved in the planning, and that the staff be trained in communication skills. In addition it was suggested that the innovation should be tried on a small scale or that it should be introduced slowly with continuous evaluation.

With regard to the innovation itself it was advised that there should be no voluntary attendance and that each department should be allowed to mold the innovation to fit its own needs. It was also felt that both flexible and traditional scheduling should be offered simultaneously. One staff member felt that students should have the option of choosing the type of schedule he wanted, while another staff member felt that only those students who earned the privilege of independent study should be placed on flexible scheduling - he felt this might include about 15% of the student body.

Again, one staff member emphasized that a school should have adequate facilities before undertaking this type of innovation, and one respondent stressed the need for a scheduling programmer who thoroughly understood the needs of both teachers and students.

Some of our respondents, in order to underscore the level of difficulty of operating a program of flexible scheduling, offered advice which would serve to make any public school system in the country shrink from the innovation. One suggestion was that the innovation should only be considered if an entirely new staff were recruited; another was that parents as well as teachers and administrators should all participate in attitude change groups.

Finally, one person stated that he felt flexible scheduling would work beautifully in a school which enrolled not more than 500 students - all of whom were well above average in their academic work. He felt that for a school like Troy's, with 2,000 [26] students of mixed ability, the innovation was not workable.

E. INNOVATION PROCEDURES USED AND BARRIERS ENCOUNTERED

On the basis of previous research done by Havelock, a list of procedures which have been found to be significant in carrying out an innovation process were drawn up. This list was used as part of the questionnaire which was mailed to school systems in our nationwide sample, and respondents were asked to indicate the extent to which each of these procedures had been employed in instituting their "showcase" innovation. As part of the nationwide sample the Superintendent's office of the Troy schools had received and filled out this form prior to our on-site visit. As part of our on-site interview schedule we asked those respondents who had played a key role in planning and implementing flexible modular scheduling to rate each of these same procedures from their own point of view. The Assistant Superintendent, the Principal, the Assistant Principal and the Social Studies Chairman filled out these rating forms, and their responses are given, together with those from the mailed questionnaire, in Table I. In this table procedures are listed in decreasing order of emphasis given them, as rated by the staff.

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[26] Troy High School, which enrolled 1,300 students when flexible scheduling was introduced, has since grown to over 2,000 students.

TABLE I

INNOVATION PROCEDURES USED BY TROY

	On-Site Questionnaires					
INNOVATION PROCEDURES	Assistant Superintendent	Principal	Assistant Principal	Social Studies Chairman	Mailed Questionnaire	MEAN
1. Confrontation of differences	3	5	4	4	3	3.8
2. Creating awareness of the need for change	4	5	3	4	3	3.8
3. Adequate diagnosis of the real educational need	3	5	4	4	3	3.8
4. Stressing self-help by the users of the innovation	3	5	4	4	3	3.8
5. Persistance by those who advocate the innovation	4	3	4	4	4	3.8
6. Providing a climate conducive to risk-taking	3	5	2	4	4	3.6
7. Providing a climate conducive to sharing ideas	3	5	3	4	3	3.6
8. Maximizing chances of participation by many groups	3	5	4	3	3	3.6
9. Utilizing a number of different media to get the new ideas across	3	5	3	3	4	3.6
10. Adequate definition of objectives	3	5	3	4	3	3.6
11. Systematic Planning	4	4	3	4	3	3.6
12. Finding shared values as a basis for working	3	5	3	3	3	3.4
13. Resolution of interpersonal conflicts	4	5	3	2	3	3.4
14. Creating an awareness of alternative solutions	2	5	3	3	4	3.4
15. Involvement of informal leaders of opinion inside the schools	3	5	3	2	3	3.2
16. Starting out with adequate financial resources to do the job	4	3	3	3	3	3.2
17. Taking advantage of crisis situations	3	5	3		3	2.8
18. Participation by key community leaders	2	5	2	1	3	2.6
19. Selecting a competent staff to implement change	3	4	2		3	2.4
20. Systematic evaluation	3	3	2	2	2	2.4
21. Solid research base	2	3	1	1	2	1.8
MEAN	3.1	4.5	3.0	2.8	3.1	3.3

5=Extreme
4=Major
3=Moderate
2=Slight
1=None

Overall, Table I indicates that the staff felt that these key innovation procedures had been employed to a moderate degree (3.3). Looking at the mean rating for each individual respondent, it can be seen that the Principal perceived that these procedures had been followed to a much higher degree (4.5, or "major" to "extreme") than did the other respondents (all at or close to 3.0, or "moderate").

It is also clear that with few exceptions each procedure was felt by respondents to have been employed to a "moderate" or "major-to-moderate" degree. Those which were used only to a "slight" degree were: #19, "Selecting a competent staff to implement change" (1.8); #20, "Carrying out a systematic evaluation" (2.4); and #21, "Selecting an innovation which rested on a solid research base" (2.4). It should also be noted that #18, "Participation by key community leaders", was also rated as having been given a fairly low degree of emphasis (2.6).[27]

If it is true that few of these key procedures were slighted, the question of why Troy's innovation failed still remains. A look at another part of our questionnaire and interview form may help to provide some answers. Havelock's research has shown that there are a number of barriers to successful innovation attempts which are frequently encountered. A list of such barriers was included in our mailed questionnaire and in our interview shcedule with key respondents; again respondents were asked to rate each item with regard to the extent to which it was a factor in the showcase innovation. Responses to this question are presented in Table 2, which lists the barriers in order of decreasing importance as rated by the staff.

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[27] On the mailed questionnaire it was indicated that lay advisory groups (community, minority, parents) are consulted as a matter of general school policy. We do not know if this is a recently adopted procedure, but we are quite certain that this policy was not carried out in the case of flexible scheduling.

TABLE 2

BARRIERS TO INNOVATION ENCOUNTERED BY TROY

	On-Site Questionnaire					
BARRIERS TO THE INNOVATION	Assistant Superintendent	Principal	Assistant Principal	Social Studies Chairman	Mailed Questionnaire	MEAN
1. Inadequacy of school plant, facilities, equipment or supplies	5	3	5	5	5	4.6
2. Frustration and difficulty encountered by teachers and/or relevant staff in trying to adopt	3	4	5	4	4	4.0
3. Confusion among staff about the purpose of the innovation	3	3	5	5	3	3.8
4. Absence of a concerted campaign to put new ideas across	4	2	5	3	4	3.6
5. Lack of coordination and teamwork within the school system	2	3	4	4	3	3.4
6. Lack of communication between staff and students	3	3	4	5	2	3.4
7. Lack of adequate contacts with outside resource groups (e.g., universities, labs, consultant, etc.)	2	3	4	4	3	3.4
8. Unwillingness of teachers and other school personnel to change or listen to new ideas	2	4	5	2	3	3.2
9. Disorganization of the planning and implementation efforts	3	2	4	5	2	3.2
10. Staff's lack of precise information about the innovation	3	2	5	4	2	3.2
11. Lack of communication among the staff	4	2	3	4	3	3.2
12. Frustration and difficulty encountered by students during the adoption process	3	3	4	4	1	3.0
13. Lack of contact with other school systems who had considered the same innovation	2	4	4	3	1	2.8
14. Rigidity of school system structure and bureaucracy	2	4	4	2	2	2.8
15. Shortage of funds allocated for the innovation	2	3	3	2	3	2.6
16. Feeling by teachers and staff that the innovation would have little benefit for them	2	2	4	2	2	2.4
17. Shortage of qualified personnel	2	2	4	2	2	2.4
18. Unwillingness of resource groups to help us revise or adapt	2	2	3	2	1	2.0
MEAN	2.6	2.8	4.2	3.4	2.6	3.2

5=Extreme
4=Major
3=Moderate
2=Slight
1=None

This table shows that overall these barriers were of moderate (3.2) significance. The first barrier, "Inadequacy of school plant, facilities, equipment or supplies," stands out as being extremely important, with a mean rating of 4.6. This item was rated as "extreme" (5) by all respondents except the Principal, who considered it to be of "moderate" importance (3). Three barriers were rated as being of, or close to, major importance: #2, "Frustration and difficulty encountered by teachers and/or relevant staff in trying to adopt" (4.0); #3, "Confusion among staff about the purpose of the innovation" (3.8); and #4, "Absence of a concerted campaign to put the new ideas across" (3.6).

Of only slight importance were the final three barriers: #18, "Unwillingness of resource groups to help us revise or adapt" (2.0); #17, "Shortage of qualified personnel" (2.4); and #16, "Feeling by teachers and staff that the innovation would have little benefit for them" (2.4). All other barriers on our list were rated as of "moderate" importance.

Again some differences may be noted in the mean scores of the individual respondents. The Assistant Principal perceived these barriers, taken together, as being of major importance (4.2); the Social Studies Chairman rated them as being of somewhat more than moderate importance (3.4), while the other respondents considered them to be of slightly less than moderate significance (2.6 to 2.8).

In some cases the items on our list of barriers were roughly the converse of those on the list of procedures. When this was the case our respondents were generally quite consistent in their ratings; for example, procedure #16, "Starting out with adequate financial resources to do the job" was rated as having received moderate attention (3.2), while barrier #15, "Shortage of funds allocated for the innovation" presented only a moderate to slight (2.6) problem. Of particular note is the fact that participation by key community leaders was largely neglected (procedure #18 with a rating of 2.6), and the absence of a concerted campaign to put the new ideas across (barrier #4, with a rating of 3.6) was viewed as a substantial barrier.

There is not a cause and effect relationship in all cases, however. In one case, the slighting of a procedure did not result in any serious barrier: though slight effort was put into selecting a competent staff to implement the change (procedure #19), the project still did not suffer from a shortage of qualified personnel (barrier #17). However, our respondents felt that considerable effort was put into defining objectives (procedure #10), and yet the staff was still confused about the purpose of the innovation (barrier #3).

The latter example may be viewed as particularly telling in Troy's case; the innovation was so complex and the changes required were so vast that perhaps a great deal more than a "moderate" degree of effort should have been spent in carrying out the procedures of innovations in order to overcome the barriers.

In the previous section (Section D) we discussed the reasons that the staff gave, in their own words, for the failure of the innovation. If our list of procedures and barriers which we have just described may be considered relevant and inclusive for all innovation processes, then we should find that the staff's own list of reasons for failure should be related to barriers which were rated as important and procedures which were under-used.

Table 3 lists 13 "reasons for failure" which the staff cited spontaneously next to each of these are listed those barriers and procedures from our questionnaire which are relevant, together with the ratings given by the staff to each of these barriers and procedures. One respondent's observation that the staff may not have been objective enough is the only "reason" (#13) listed which is not covered by either a barrier or a procedure.

BARRIERS AND PROCEDURES RELATED TO REASONS FOR FAILURE AS STATED BY THE STAFF

Staff's Stated Reasons for Failure	Barrier to Innovation	Mean of Barrier	Innovation Procedure	Mean of Procedures
1. Inadequate facilities	B1. Inadequacy of school plant, facilities equipment or supplies	4.6		
2. Innovation too radical	B2. Frustration and difficulty encountered by staff in trying to adopt	4.0	P18. Participation by key community leaders	2.6
	B8. Unwillingness of teachers and other school personnel to change or listen to new ideas	3 2	P14. Creating an awareness of alternative solutions	3.4
3. Moved too far and too fast	B2. Frustration and difficulty encountered by staff in trying to adopt	4.0		
	B12. Frustration and difficulty encountered by students during adoption process	3.0		
4. No clear goal-image	B3. Confusion among staff about purpose of innovation	3.8	P3. Adequate diagnosis of real educational need.	3.8
			P10. Adequate definition of objectives	3.6
5. Insufficient groundwork	B4. Absence of a concerted campaign to put the new ideas across	3.6	P6. Providing a climate conducive to risk-taking	3.6
			P7. Providing a climate conducive to sharing ideas	3.6
			P2. Creating awareness of the need for change	3.8
6. Inadequate communication among staff	B5. Lack of coordination and teamwork within school system	3.4	P13. Resolution of interpersonal conflicts	3.4
	B11. Lack of communication among staff	3.2	P12. Finding shared values as a basis for working	3.4
			P1. Confrontation of differences	3.8
7. Inadequate planning	B9. Disorganization of the planning and implementation efforts	3.2	P11. Systematic Planning	3.6
8. Inadequate teacher training	B10. Staff's lack of precise information about the innovation	3.2		

TABLE 3, cont.

Staff's Stated Reasons for Failure	Barrier to Innovation	Mean of Barrier	Innovation Procedure	Mean of Procedure
9 Innovation not adaptable to needs of different students	B12. Frustration and difficulty encountered by students during adoption process	3.0		
10. Inadequate evaluation			P20. Systematic evaluation	2.4
11. Need for a newsletter for parents			P9. Utilizing a number of different media to get new ideas across	3.6
12. Inadequate leadership			P5. Persistence by those who advocate the innovation	3.8
13. Staff not objective				

IV. MELDING PRACTICE AND THEORY IN THE INNOVATION

In the previous sections of this case study we have described the events which occurred at Troy High School during that system's experience with an educational change process - the introduction of flexible modular scheduling. In this section we hope to arrive at a clearer understanding of those events by examining them in terms of some theoretical concepts about change.

We will first discuss the extent to which the innovation process followed a pattern of change as outlined in several broad theories of change. Next, an analysis will be made of the roles which were played by individuals and groups in Troy's change process. The process will then be analyzed in terms of four key elements of the communication process, and finally an analysis will be made of ten key factors of the dissemination and utilization process as they apply to these four communication elements in Troy's innovation process.

A. WHAT MODEL OF CHANGE?

Because the adoption of flexible modular scheduling was not planned in advance according to any one particular theory or model of change, it stands to reason that it cannot be analyzed solely in terms of one particular perspective. However, the theory of change which best describes Troy's change process is the problem-solving approach as summarized by Havelock in Planning for Innovation (1969, Ch. 11).

1. The Innovation Process as a Problem-Solving Approach

The focus of the problem-solving approach is on the user and the user's needs; the goal of the process is the satisfaction of those needs. In Troy's case the perceived need was to improve the school experience, making it more meaningful and relevant to more students so that they could benefit from a higher quality of education. Since flexible modular scheduling did not satisfy this need, the process is now recycling, with mini-courses being tried out as a solution to the problem.

In The Change Agent's Guide to Innovation in Education (1973) Havelock detailed six stages which a change agent should attempt to follow in a problem-solving innovation process: 1) building a relationship, 2) diagnosis, 3) acquiring resources, 4) choosing the solution, 5) gaining acceptance, and 6) stabilizing the innovation and generating self-renewal. As we shall see below, as we examine each of these stages in turn as they relate to Troy's innovation process, not all of the stages were given equal or adequate attention.

a. Building a Relationship

The Principal of Troy High School acted as an inside change agent in the introduction of flexible modular scheduling. Although he assumed the position of principal only a short time before the innovation process began, he was already a familiar figure in the community; he was well liked and respected. He therefore had the insider's advantage of being somewhat familiar with the system and identifying with its needs. In calling on the Professor of Education from Michigan State University, an inside-outside team was also formed, with the outside change agent lending his expertise to the project. The outsider, however, did not manage to build a solid relationship with personnel inside the system (apart from the Principal), and he was never fully trusted by them.

The Principal understood the formal power structure of the school system and he also had a fairly good idea of the informal leadership structure. However, he did not take into account the salient norm of *conservatism* within the school and community when he designed the change program. On the whole, however, the starting relationship was a good one, providing a solid base on which a change program could be built.

b. Diagnosis

The Principal sensed a need for change through discussions with staff members; they were restless and wanted a change. It appears that change was undertaken,at least in part, simply for the sake of change. Diagnosis was inadequate and was handled too hastily. Rather than working collaboratively with staff members to establish the system's goals and then analyzing the system to determine what activities could best meet these goals, the Principal acted primarily as a solution-giver, proposing a solution which had personal appeal to himself.

c. Acquiring Relevant Resources

Havelock (1973) describes seven areas in which resources may be sought; these include information for 1) diagnosis, 2) awareness, 3) evaluation-before-trial, 4) trial, 5) evaluation-after-trial, 6) installation and 7) maintenance. In Troy's case no outside resources were used during the diagnostic stage; on the basis of discussions with staff the Principal decided that an alteration in present scheduling procedures would give Troy the change it needed.

Several sources of information for awareness were utilized; the Principal received information from the Social Studies Chairman and he contacted the MSU Professor for information. Both sources led him to an awareness of flexible modular scheduling as one approach to the type of solution he was seeking.

In order to make an "evaluation-before-trial" the Principal read a book on flexible scheduling and viewed a film which illustrated the concept. He then went to Chicago to consult with representatives of Stanford School Scheduling System; from them he learned technical details of the innovation. In addition all members of the staff visited other innovative schools. This did not give them information specifically about the innovation under consideration, but it did give them some ideas about the value of innovativeness in general and the use students might make of unscheduled time in particular.

It did not seem feasible for Troy to undertake a trial of flexible scheduling, but as a substitute they experimented with rotation of schedules. This gave them a feeling for a related innovation and tested the ability of both students and staff to adapt to a variation from traditional scheduling.

Evaluation-after-trial consisted of a survey of staff and student attitudes towards the planned change, and it resulted in a decision to go ahead.

Two primary types of resources were used for installation information. First the entire staff attended a training program which was intended to prepare them for the attitude change necessary for the success of the innovation. Second, a representative from the Stanford School Scheduling

System came to the school to describe the technical aspects of the innovation and to instruct the staff in preparation of schedules. In addition the Principal called on two principals of nearby schools for information and support for Troy's venture.

Resources for maintenance were acquired after the innovation had already been adopted; the Kettering Foundation provided funds and personnel for conducting an evaluation of the program.

In the questionnaire which we mailed to Troy as part of our nationwide sample of school districts, we asked how often certain internal and external resources were utilized by the school system. During our on-site interviews we asked key informants to indicate how often these resources had been used during the planning and implementation of flexible modular scheduling. Tables 4a and 4b list the response of each of the key individuals, the mean responses for these on-site questionnaires, and the responses given on the mailed questionnaire.

Table 4a.

TROY'S UTILIZATION OF INTERNAL RESOURCES

INTERNAL RESOURCES	On-Site Questionnaire				Mean of on-site Questionnaire	Mailed Questionnaire
	Assistant Superintendent	Principal	Assistant Principal	Social Studies Chairman		
1. Teacher discussions and idea presentations	5	5	5	4	4.8	3
2. In-Service training program	4	4	5	4	4.3	3
3. Student discussions and idea presentations	4	5	5	1	3.8	3
4. Library facilities	4	5	0	3	3.0	5
5. Research and evaluation office and staff	4	4	0	4	3.0	4
6. Media specialists or centers	3	5	0	0	2.0	5
7. Curriculum Supervisors	5	2	0	0	1.8	4
MEAN	4.1	4.3	2.1	2.3	3.2	3.9

5=very frequently; 4=frequently; 3=occasionally; 2=very infrequently; 1=never

0=not available; blank=item not rated (considered as zero in computing the mean)

Table 4b.

TROY'S UTILIZATION OF EXTERNAL RESOURCES

EXTERNAL RESOURCES	On-Site Questionnaire					
	Assistant Superintendent	Principal	Assistant Principal	Social Studies Chairman	Mean of on-site Questionnaire	Mailed Questionnaire
1. Universities and colleges	3	5	5	3	4.0	3
2. Foundations and other private programs	5	5	5		3.8	2
3. Professional associations	4	0	0		1.0	2
4. State Education Agency Services	4	0			1.0	2
5. ERIC	3	0	0		0.8	
6. ESEA Title III projects or services	2	0	0		0.5	0
7. ESEA Title I projects or services	2	0	0		0.5	5
8. "Other" federally funded programs or services	2	0	0		0.5	4
9. Educational laboratories	1	0	0		0.3	
MEAN	2.9	1.1	1.1	0.3	1.4	2.0

5=very frequently; 4=frequently; 3=occasionally; 2=very infrequently; 1=never
0=not available; blank=item not rated (considered as zero in computing the mean)

These tables show that in general Troy utilizes internal resources more often than external resources (frequently as opposed to very infrequently). During the flexible scheduling venture internal resources were also used more often than external resources, but, surprisingly, both internal and external resources were reported as being utilized less often than is generally the case. However, those resources which were used "frequently" and "very frequently" during the flexible scheduling experiment were used more often at that time than they generally are. These include the internal resources of 1) teacher discussions and idea presentation, 2)in-service training program, and 3) student discussions and idea presentations; and the external resources of 1) universities and colleges, and 2) foundations and other private programs.

The low use of curriculum supervisors (1.8) in this innovation is somewhat surprising, but what is most striking is the fact that three of our four key informants were unaware of all but two of the external resources listed, or they did not consider that these resources were available.

Table 4a shows that the Assistant Superintendent and the Principal perceived a higher (frequent) use of internal resources in general than did the Assistant Principal or the Curriculum Director (very infrequent). The Assistant Superintendent perceived a higher degree of utilization of external resources than did our other informants (Table 4b).

d. Choosing the Solution

From the discussion above concerning resources acquired for different stages of the change program, it is clear that the bulk of information which was gathered concerned only one particular innovation. There was no feasibility testing in which alternative solution ideas are evaluated according to a number of criteria. Nor was any adaptation of the innovation considered; it was seen as an "all or nothing" proposition. The innovation was chosen then with little consideration given to establishing its relevance to Troy's particular situation.

e. Gaining Acceptance

The Principal made an attempt to lead staff members through the stages of individual adoption by informing them of the possible innovation, gaining their approval for further explorations, implementing a modified trial, and providing staff training. It was during the staff training that initial resistance developed, however; some staff members made personal rejections of the innovation while others moved on to adoption. Partly because the Principal was not aware of the importance of allowing individuals to pass at their own pace through the adoption stages and partly because a firm deadline had been set for full implementation, this early resistance was not dealt with and was therefore not dissipated.

No genuine analysis was made of the interpersonal network of communication and influence within the school system, but the Principal did attempt to work with the formal leadership to gain their acceptance before presenting his ideas to the entire staff. He first contacted the Superintendent and the Assistant Superintendent; he next discussed the plan with the Assistant Principal, the Guidance Director and the Department Chairmen before presenting it to the staff as a whole. If one can assume that some or all of these staff members were opinion leaders within the school, then we can say that the "stepping-stone" approach was used in gaining the acceptance of the staff. As events developed, however, it turned out that although the Principal had received the approval of the Superintendent and the school board, he had not gained their support.

Programs for gaining the acceptance of students were carried out on a more limited basis. The students were of course involved in the experimental rotation of schedules, and they were informed about flexible scheduling at an assembly. No resistance developed among students, and they remained overwhelmingly in favor of the innovation throughout the course of the program. Nevertheless, students received inadequate preparation in how to make the best use of their new freedom and this lack of preparation affected the entire program.

The program planning must also be faulted in that it neglected to prepare parents and other community members for the innovation. No attempt was made to reach out to the large majority of parents who did not attend information sessions. Later, when controversy developed, these citizens had no direct means of assessing the merits of the program.

f. Stabilizing the Innovation and Generating Self-Renewal

As we now know, the innovation did not stabilize. One problem was that initial resistance grew and hardened, and this was partly because unhappy staff members received no hearings on their grievances and no personal rewards or support for making an attempt at adjustment. Another problem was that the innovation grew to include the Cluster A and Cluster C programs before the initial changes had been fully internalized. These new programs served as catalysts to force resistance into the open; when this happened attacks were made not only on these subsidiary innovations but also on the total program of flexible scheduling.

The program was not adequately monitored and evaluated, and thus there was no concrete evidence on which opinions could be based. Furthermore, when outside sources of funds were cut off, the argument could be made that the school district did not have an adequate financial capacity to maintain the innovation.

The resignation of the Principal during a critical phase of the program helped to seal its fate. With its primary champion gone there was no formal leadership which fully supported the program.

2. The Innovation from the Social-Interaction Perspective

In the social-interaction perspective the focus shifts from the user and his problems to the social structure and the user's position in a network of interpersonal contacts. The Principal may be viewed as an "innovator" who learned about flexible scheduling through his network of interpersonal contacts as well as through various media sources. The Michigan State Professor in particular was a key contact and was depended on heavily by the Principal as a source of support. The Principal also expanded his outside contacts by meeting with a representative of the Stanford School Scheduling System and by conferring with other principals in his reference group.

An attempt was next made to gain the support of potential "opinion leaders" on the Troy staff by involving key leadership personnel (Assistant Principal, Guidance Director and Social Studies Chairman) in a discussion of the program. The innovation was then presented to department heads and to the general staff using written materials, discussions and films. Departmental meetings were held on a regular basis to increase communication within each subgroup of the staff.

Before a final decision was made to adopt the innovation, the staff was polled on their attitude towards it. The Principal reports that, out of a staff of fifty, thirty-one were in favor of the change, six were ambivalent, and thirteen were against any change. The Principal went on to hypothesize that these groups might represent early adopters, late adopters and laggards.

3. The Innovation from the Research, Development and Diffusion (RD&D) Perspective

The research, development and diffusion approach posits a user population which can be effectively reached and influenced through a dissemination program once a highly rational and complex process of research, development and packaging has taken place. Flexible modular scheduling may be viewed as an innovation which was only partially developed and packaged before it came to the attention of the Troy staff. As is usually the case in the RD&D model of change, the innovation was adopted by Troy without alterations.

The fact that the innovation was a failure for Troy may be traced partly to the fact that the research and development efforts of the innovation backers were inadequate; the innovation had not been fully tested and evaluated. As the history of this innovation is viewed from the RD&D perspective, the role played by the Kettering Foundation had potential importance. It supplied funds for an evaluation of the innovation, and provided an effective mechanism for wide distribution of the evaluation results. Such an evaluation in a typical high school could have provided valuable information to other schools which were considering adoption, but in fact this evaluation was never effectively carried out.

B. AN ANALYSIS OF CHANGE ROLES

References have been made in preceding sections to the roles which various staff members of Troy High School played during the adoption of flexible scheduling. These roles will now be examined in more detail; first, the roles of those whom we consider to be key figures will be described, and then the roles played by other participants in the innovation will be discussed.

1. Key Figures

Table 5 presents in outline form the attitudes and characteristics of the key participants in the planning and implementation of the flexible scheduling program.

TABLE 5

ATTITUDES AND CHARACTERISTICS OF KFY PARTICIPANTS

KEY PARTICIPANTS	Age	Ethnic Group	Attitude to Innovations In General	Attitude to this Innovation	Basis of Motivation	Educational Values	Frequency of contacts with Students	Frequency of contacts with Inside Resources	Frequency of contacts with Outside Resources	Other note-worthy characteristics
1. Principal	30's	W	[✓ +] N -	[✓ +] N -	Excited by innovation in education	Values Creativity	High	High	High	Creative, mobile and ambitious
2. Assistant Principal	30's		[✓ +] N -	[✓ +] N -	Committed to the Program	Dedicated to finding the best education program for teachers and students	High	Medium	Low	
Guidance Director	30's	W	+ [✓ N] -	+ N [✓ -]	Disliked handling of this innovation	Likes students to have free access to guidance personnel	High	Medium	Medium	Enthusiastic about her ro
4. Social Studies Chairman	60's	W	+ [✓ N] -	+ N [✓ -]	Dislikes Permissiveness	Wants educational programs to fill needs of students of all abilities	High	Medium	Low	A dedicated and respecte teacher
5. Superintendent			+ N -	+ [✓ N] -	Caught in middle between staff and parents and community		Low	Low	Low	
6. Assistant Superintendent	50's	W	[✓ +] N -	+ [✓ N] -	Feels only best students should be allowed to have flexible scheduling	Favors well-planned innovations with full staff participation	Low	High	Medium	
7 School Board			+ N -	[✓ +] N [✓ -]	Caught in middle between staff and	Mixed - from progressive to conservative				

The Principal was certainly the central figure in this story. He acted as an *innovator* and *initiator* of the flexible scheduling program. He also acted as a *change agent* who mixed a problem-solving approach with advocacy and solution-giving. He attempted to involve the staff in a collective decision-making process, but he himself admits that he was often "bullheaded" and too defensive about the program, and that he sometimes made autocratic decisions without fully considering the advice which he solicited from other staff members. He was given full rein by the School Board and the Superintendent in planning and managing the change process, and its successes and failures can in large measure be laid directly on his doorstep.

The Assistant Principal did not appear prominently in our analysis of the innovation process, but his commitment to the program in its first year of operation was nevertheless a key factor in its early success. He acted as *implementer* and *facilitator* and he gave much-needed support to the Principal even after leaving the school for another position in Troy.

The Guidance Director and the Social Studies Chairman were both *opinion leaders* who gave their support to the program in the planning stages. The Curriculum Director began to be apprehensive about the project during the staff training program, and the Guidance Director began to turn against the innovation when the Cluster C program was introduced. These two opinion leaders ended up as *resisters* who were vocal leaders of the opposition forces when controversy broke out.

The school board acted as the final *decision-maker* at all stages of the program, and it also played the role of *gatekeeper*. It received input from all factions of the school and community and tried to make its decisions on the basis of majority opinion. It was caught squarely in the middle of the controversy and its vacillations and split decisions reflected the mood of its constituency.

The Superintendent played a fairly passive role in the planning process and in the early stages of implementation. He gave his permission for the Principal to go ahead with the program but he himself was not personally involved. When parental complaints began coming in to the central office, however, he assumed the role of *gatekeeper*, monitoring the program with an eye to eliminating those elements which were causing parental concern. After the Principal had resigned and community feelings were still running high, the Superintendent became a *scapegoat*, bearing the brunt of the attacks on a program with which he did not personally identify.

The role of the Assistant Superintendent was as *linker* or *interface agent* between the Principal and the Superintendent. He worked with the Principal in planning and implementing the program, but he was out of town during the difficult summer of 1967, and he did not become personally involved in the conflict.

2. Other Figures Involved in Implementation

The Professor of Education from Michigan State University was a *knowledge linker*, helping to bring the concept of flexible scheduling to the attention of the Principal; he also played a very important role as *trainer* of the staff.

Among the staff, the Department Chairmen acted as *opinion leaders* within their own departments. About one third of the staff were strong *supporters* of the program and many of these were also *innovators* in that they readily adopted the basic concept of the program and often introduced additional innovative techniques into their classrooms in order to enhance the basic program. Another third of the staff were *resisters*, objecting more to the handling of the program than to the program itself. The final staff member who should be mentioned is the Administrative Intern who organized the Cluster C program. As head of this controversial program he served as a *catalyst to resisters.*[28]

Students were the *users* of the program and the vast majority of them were also program *supporters*. Parents and other community members, who attacked or supported the program to various degrees, may be considered, as a group, the *watchdogs*.

C. THE COMMUNICATION PROCESS

Havelock (1969) suggests that the process of communication may be analyzed in terms of four key elements: resource persons and systems, user persons and systems, message and medium. These four elements will be examined as they relate to Troy's innovation process in implementing flexible modular scheduling.

1. Resource Persons and Systems

The key internal resource person was the Principal himself; other internal resources included the education file of the Curriculum Director, financial support from the School Board and survey instruments for assessing staff attitudes. Outside resources were more numerous and included the

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[28] Although not actually involved in the change program itself, the speakers who participated in the Cluster A program were also catalysts to resisters.

Michigan State Professor, the Stanford School Scheduling System and its representatives, principals from neighboring schools, funds from the Kettering Foundation and personnel made available through these funds, other school systems which served as visitation sites, and books and films about the innovation. In the second year of operation, the Coordinator of Math for Oakland County Schools was called in to help with program adjustments.

2. User Persons and Systems

The students of Troy High School were the ultimate users of the flexible scheduling program, but staff members, particularly teachers, were also affected by the program, and they must certainly be considered a second important user group. Parents and other community members were indirect users.

3. Message

The basic message in the innovation process was the flexible modular scheduling program itself. Many other messages were related to this primary message and included information on its concepts, principles and technical aspects, information concerning desirable staff and student attitudinal and behavioral changes, and feedback messages from staff, students, parents and community.

In addition, the Cluster A speakers program carried messages from outside speakers to the students, and messages concerning the program, primaril of negative content, were carried to the staff and to the community. The Cluster C program was also the locus of diverse messages which had impact on many individuals in different ways. Students involved in Cluster C sessions received messages which prompted them to alter their behavior, whereas negative messages which reached most community members were founded on unsubstantiated rumors.

4. Medium

The Principal gained his information through printed materials, films and contacts with outside resource persons. The rest of the staff received messages through films, written materials, visitations to other schools, the staff training program, and meetings and discussions which included either the full staff, staff leadership, departmental members or separate factions for or against the innovation. Messages to students were transmitted through a student assembly meeting and limited individual discussions with staff members. Parents were informed by means of meetings, and both parents and other community members received messages through the Daily Tribune of Royal Oak and through open school board meetings.[29] School board meetings also served as a vehicle for feedback messages from staff, students, parents and the community.

D. AN ANALYSIS OF DISSEMINATION AND UTILIZATION FACTORS

Havelock has found that certain factors tend to play a key role in almost all innovation processes. These factors are linkage, structure, openness, capacity, reward, proximity, synergy, homophily, energy and empathy.

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[29] In the mailed questionnaire which Troy filled out prior to our on-site interview, it was indicated that in general they utilize the local newspaper weekly or more often to explain innovations to parents and the community, whereas newsletters and public meetings are utilized only on a quarterly basis, and local radio and television are used very rarely or never.

The degree to which each of these ten factors is present and functioning across the four communication elements provides a paradigm for explaining (and perhaps even predicting) the extent to which a planned innovation will be successful.

1. Linkage

Resources. The Michigan State Professor was a key linkage person between the Principal and other resources. He directed the Principal to a relevant book, and it was also through his linkage to more remote resource persons that the Kettering Foundation grant was acquired. The Professor worked collaboratively with the Principal primarily during the planning stage, but also during the implementation stage as well. The Principal was also linked to principals of neighboring schools who met together and provided mutual support. Representatives of the Stanford School Scheduling System were linking agents between their scheduling service and the school personnel.

Users. Teachers and other staff were linked to the Professor during the training program which he provided for them, but he did not work collaboratively with them in terms of answering to many of their specific needs. Staff members were also linked to other innovative schools through the visitation program. Within the school system, departmental subgroups were linked together through the Principal and other administrative personnel, and the Principal was linked to the Superintendent through the Assistant Superintendent. One obvious *lack* was a linkage mechanism between the factions of dissident and supportive teachers.

Message. As was pointed out above, the scheduling program itself was the primary message in this case; it failed to serve as a linkage mechanism for the staff primarily because its relevancy to Troy's situation was never clearly established. Given this fact it is easy to understand that messages related to the concept and principles of the program were not perceived as relevant by a significant portion of the staff. There was internal relatedness among messages, however; for example, suggestions that staff must learn to behave in more open ways was related to the fact that the program called for an increase in one-to-one interaction with students. For many students the message of the program was perceived as relevant. For some it was compatible with their desires to have more free time for socializing; for others it was relevant to their desires to study more independently and creatively.

Medium. The chief medium used for sending messages to the staff during the planning phase was the staff training program. This gave the staff contact with resource persons and with each other and promoted two-way interaction. However, many staff members did not perceive it as relevant either to their roles or to the program which was being planned. Staff meetings which were held to discuss the program were received more positively and were more effective in linking the staff with the Principal. Students received their primary messages through a student assembly which could have given little opportunity for two-way interaction. Most parents received their information either through students, who acted as inadequate linkers, or through newspaper releases which were ineffective at linking sender and receiver early in the program.

2. Structure

Resources. There was no formal structure among the external resources utilized in the flexible scheduling program. The training program and the scheduling service were provided by unrelated resources, and there was thus no way to ensure adequate coverage of all essential inputs to the user system.

Users. The user system was well structured internally, with roles of innovator, opinion leaders and defenders all represented. Its chief lack, however, was a structured and systematic problem-solving system.

Message. There was technical support for the actual scheduling procedures but the innovation lacked structure in terms of adequate guides for installation. The school was quite unprepared for the array of problems which presented themselves as a result of adopting the program.

Medium. The campaign to acquaint the staff with the innovation was well structured in that it utilized a number of media over time. A primary problem with it was that the program to gain staff acceptance moved at too fast a pace for many of the receivers; it was not phased to fit with individual adoption cycles. There was no well-structured strategy to inform either parents or students of the innovation.

3. Openness

Resources. Both the Stanford School Scheduling System representatives and the MSU Professor were willing to help the client system, but neither of them was open to feedback from the staff. There was particular resentment over the fact that the Professor did not respond to what staff members felt to be legitimate questions. The Principal tried to engage in an open process with the staff, but, at least from the staff's perspective, he too often failed to heed their suggestions.

Users. Some members of the staff were not open to receiving messages which required them to change their attitudes and behavior, and, as we have pointed out, some resistance began to emerge among the staff as early as the training program. Some teachers were open in their relationships with students, while others were not. Students were quite willing to undertake the new project, but they were not wholly willing to behave in a manner which would make the program successful. Suggestions that they attend class and make productive use of their unscheduled time were not heeded. Many students, however, enjoyed more open relationships with those teachers who were responsive.

Message. The program itself, or the message, had problems in terms of its adaptability and its demonstrability before full scale adoption. The school had to take it as it came with no chance for a demonstration either in Troy or in nearby schools.

Medium. The staff regarded early meetings about the program as vehicles for open discussion. The training program for staff, however, was not sufficiently flexible to meet the needs of different staff members. Students received messages primarily through an assembly meeting which did not allow for two-way interaction. A deadline which called for full adoption after only six months of planning did not allow time for flexibility in the over-all information program.

4. Capacity.

Resources. Sufficient capacity for innovation was available in terms of resources. The MSU Professor had the necessary skills to run a staff training program; Stanford School Scheduling System had an operational scheduling program; and the Kettering Foundation provided funds for research and evaluation of the program.

User. The program called for a high degree of skills on the part of the staff; some staff members did not have sufficient training or experience to meet these demands. Similarly, the program required students to use their full intellectual capacities, but most students did not have the necessary self-control to undertake an independent plan of study. The user system possessed only marginal physical facilities and a marginal capacity to fund the program through its own local resources.

Message. The scheduling program, as was pointed out above, was inadequately packaged and described, and messages to students and parents were insufficient to explain the program fully.

Medium. The training program was an effective medium for involving and influencing certain staff members, but it unfortunately also had the capacity to alienate others. Meetings which were held to inform staff as well as students and parents had the capability of reaching a large number of people in a short period of time, but they had the drawback of not being available for reference at a later time.

5. Reward

Resources. The Principal, as the primary internal resource person, received reward in seeing his own program in operation. He also received nation-wide recognition and fame through the publicity which the program received. However, when the program came under heavy attack he received negative reinforcement and left the system.

Users. Teachers who supported the program were rewarded by self-fulfillment and pride in their own growth, and they were further rewarded with warmer and more intimate relationships with students. Other teachers who were unable to make the difficult adjustment did not perceive that they were rewarded for making the attempt. Staff members could also be rewarded with college credit for participating in the staff training program. Not all staff members elected to do this, even though college credit was a positive factor when promotions were being considered. Those students who chose to move ahead at a rapid pace could be rewarded by fulfilling course requirements quickly, and students were also rewarded with more meaningful relationships with teachers.

Message. Students were viewed as being the primary beneficiaries of the program, but it was also anticipated that teachers would have more flexibility in planning their class times. For many teachers the requirement that curricula be revised was viewed as a benefit in the long run despite the costs which seemed high at the outset.

Medium. The staff training program was a very rewarding experience for many of the participants, but also it was threatening to some others. Media which were used in transmitting messages to parents and students were quite neutral, allowing no genuine interaction with the sender.

6. Proximity

Resources. The MSU Professor was geographically close enough to Troy so that he could be called upon personally on many occasions. Similarly, the principals of nearby schools were readily available to the Principal for consultation when he felt the need. The fact that the course scheduling service was located in California was viewed with apprehension by a number of staff members, and in fact if it had been closer more contacts with its representatives might well have resulted in a more effective linkage with that resource system. The fact that schools which were known to be using flexible scheduling in 1964 were all on the West Coast was also a drawback and resulted in the fact that no visitations to these schools were arranged.

Users. The Principal, being more cosmopolite than the rest of the staff, served as a link between the staff and resources which were both geographically and psychologically remote from them. The staff did, however, pool their own internal resources, and about half the teachers formed a pattern of sharing ideas and methods among themselves at after-school meetings.

Message. The flexible program itself was not proximate to Troy in the sense of being completely relevant to their needs or similar to any system which they had tried in the past.

Medium. The training program for staff was also a very unfamiliar experience for the majority of the staff; it did have the advantage of being highly accessible, however. Meetings which were shceduled with parents were unsuccessful because they required the parents to go out of their way to attend.

7. Synergy

Resources. External resources could provide no coherent and diversely planned program for the school, but the Principal attempted to bring these together. He utilized written materials, films, discussions and meetings as well as the staff training program.

Users. On the whole, however, the staff did not have access to a wide enough variety of resources. Those who were uncomfortable with the MSU trainer had no other resource to whom they could turn for help with their problems. Inputs to students and parents were particularly insufficient in terms of number and variety.

Message. Messages which were sent to the staff tended to be about differing and discrete aspects of the program; some messages were concerned with technical aspects of scheduling and some involved attitudinal and behavioral change. These messages were not adequately redundant and they were spaced over too short a period of time to be adequately absorbed.

Medium. The media employed as well as the messages themselves were not of sufficient variety and redundancy. The only vehicle for attitude change was the training program for staff, and the only presentation of technical aspects of the program was verbal. Rotation of classes served as a means of introducing students and staff to a variation on traditional scheduling but it did not serve as an introduction to the use of unscheduled time.

8. Homophily

Resources. The MSU Professor was similar to the Principal in interests and background, but was viewed as an unfamiliar figure by the majority of the staff. The Principal also found resource persons similar to himself in his own reference group of principals.

Users. The Principal was also similar to the rest of the staff in that he identified with the Troy school system, and he was a familiar figure to the staff. Among the staff, however, different educational values were represented; these differences contributed greatly to the faculty split which developed.

Message. Messages presented quite a problem in terms of homophily; the scheduling program itself was very different from anything which either students or staff had experienced in the past. The requirement that staff should open up to students in one-to-one relationships was a totally unfamiliar concept to most teachers, and students were equally unfamiliar with the great responsibility which was suddenly thrust upon them.

Medium. The training program for staff was also a new and frightening experience for many staff members; they were more comfortable in the familiar meeting situation. Rotation of classes was an attempt to familiarize both students and staff with aspects of the flexible program, but it failed to include the most unfamiliar aspect, that of unscheduled time.

9. Energy

Resources. The Principal was the most energetic of resources, both promoting and defending the program with vigor. The MSU Professor was also very free in giving his time and efforts to the program.

Users. Different staff members put different levels of energy into the program; some viewed such matters as curriculum revision with enthusiasm while others dragged their feet. Some were dedicated enough to put many hours of their own time into discussions of the program after school. It should be noted, however, that even many faculty members who were ultimately opposed to the program did nevertheless put much time and energy into trying to make it work in the early years. In the later years the energy which all faculty members devoted to the innovation declined as they became psychologically exhausted by controversy. Users with the lowest energy levels were undoubtedly the majority of the students, who did not have the determination and persistence to make constructive use of their unscheduled time.

Message. The scheduling program itself was a dynamic and demanding innovation; messages explaining it were insufficient for an undertaking so complex.

Medium. The training program for staff was the most forceful medium used, but it lacked persistence in answering staff questions. On the whole an insufficient number and variety of media were employed to involve staff, and particularly parents and students, in the undertaking.

10. Empathy

Resources. The MSU Professor and the Principal understood each other very well, but the Professor's empathy did not carry over to the staff.

Users. The Principal solicited ideas from the staff, but he did not fully understand the tremendous change which was required of the staff and he undoubtedly asked them to contribute too much to the program. He also overestimated student motivation; he did not anticipate that many students would elect not to go to classes or that most students would consider their unscheduled time to be "free" time. Another major problem encountered during the course of the program was that the factions of teachers for and against the innovation did not attempt to understand each other's motivation or problems.

Message. The scheduling program was an attempt to give both staff and students an opportunity for greater self-fulfillment, but messages from unhappy staff and students were not fully listened to. Students who found themselves at sea without the familiar traditional scheduling had nowhere to turn for help. Dissident teachers finally brought their complaints to the school board when they could not receive a sympathic hearing from staff within the school.

Medium. The training program for staff, as the most significant medium for providing information about the program, was also the most outstanding in failing to take into account the needs of many members of the staff.

Summary Ratings of Key Factors

From the above analysis a rough rating may be made of the extent to which each of the ten key innovation process factors were present for each of the four process elements. These ratings, which represent our own estimates, are presented in Table 6.

Table 6

RATINGS OF PROCESS ELEMENTS ON KEY FACTORS

FACTOR	ELEMENT				AVERAGE* RATING FOR FACTOR
	Resource	User	Message	Medium	
1. Linkage	Medium	High	Low	Low	Medium
2. Structure	Low	High	Low	Medium	Medium-Low
3. Openness	Low	Mixed	Low	Low	Low
4. Capacity	High	Mixed	Low	Mixed	Medium
5. Reward	Mixed	Mixed	Medium	Mixed	Medium
6. Proximity	Mixed	High	Low	Low	Medium
7. Synergy	Medium	Low	Low	Mixed	Medium-Low
8. Homophily	Medium	Medium	Low	Low	Medium-Low
9. Energy	High	High	Mixed	Low	Medium
10. Empathy	Mixed	Low	Low	Low	Low
AVERAGE* RATING FOR ELEMENT	Medium	Medium	Low	Low	Medium-Low

* "Mixed" ratings are considered to be equivalent to "Medium" for the purpose of averaging.

This table shows that, overall, resources and users ranked in the "medium" range in terms of the extent to which the key factors were present, while message and medium ranked in the "low" range. Looking at the key factors as they applied to the four elements, it is also clear that no one factor was present to a high degree. The average rating of half the factors (linkage, capacity, reward, proximity and energy) were "medium", while three (structure, synergy and homophily) were "medium-low" and the remaining two (openness and empathy) were "low." If it is true, as Havelock suspects, that success of an innovation process depends upon the degree to which the ten factors are present, then this table gives us further indication that Troy's venture in flexible modular scheduling had only a medium to low probability of success.

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APPENDIX A

"Innovation from the Superintendent's Viewpoint"

Questionnaire

No. ________

OE 131
OMB 51-S71045
Exp. 4-30-72

INNOVATION FROM THE SUPERINTENDENT'S VIEWPOINT

A SURVEY
conducted by the
University of Michigan
Institute for Social Research

for the

Division of Practice Improvement
National Center for Educational Communication
U.S. Office of Education

Comments on specific items are welcomed and will be considered in our analysis.

ALL INFORMATION WILL BE TREATED WITH THE STRICTEST CONFIDENCE.

1. In the space below we would like you to identify the most significant innovation that has been tried out in your district in the last year, using the following definition of "innovation":

> *A major change introduced in the last year for the purpose of improving the quality of education within your district. This change may have involved any of the following:*
>
> *a. a substantial reorientation on the part of staff,*
> *b. a reallocation of resources,*
> *c. adoption of new practices, programs, or technology.*

Note that the innovation does not have to be successful and may or may not be retained. You might choose one which stands out in your mind as an example of how innovations are usually adopted and implemented in your district. (The questions on this and the following page refer to this particular innovation.)

1a. Describe the innovation briefly (i.e., in two or three sentences indicate what it was, what it involved in staff and resources, who it was to benefit and how)?

1b. By what process was the innovation introduced and implemented?

1c. What persons were primarily responsible for its introduction? (Indicate by positions, roles, or titles.)

1d. What were the actual consequences of this innovation (positive and/or negative)?

1e. What seemed to be the key factor(s) in making the adoption and acceptance of this innovation successful or unsuccessful?

1c. Would you recommend that other districts like yours adopt the same innovation? What advice would you offer them on implementation?

____

____

____

2. INNOVATION PROCEDURES

In the introduction and installation of the innovation identified in Question 1, how much emphasis was given to each of the following?

	EMPHASIS				
	Extreme	Major	Moderate	Slight	None
	5	4	3	2	1
a. Systematic evaluation					
b. Solid research base					
c. Systematic planning					
d. Adequate definition of objectives					
e. Selecting a competent staff to implement change					
f. Starting out with adequate financial resources to do the job					
g. Utilizing a number of different media to get the new ideas across					
h. Persistence by those who advocate the innovation					
i. Maximizing chances of participation by many groups					
j. Stressing self-help by the users of the innovation					
k. Adequate diagnosis of the real educational need					
l. Providing a climate conducive to sharing ideas					
m. Providing a climate conducive to risk-taking					
n. Creating awareness of the need for change					
o. Creating an awareness of alternative solutions					
p. Confrontation of differences					
q. Resolution of interpersonal conflicts					
r. Involvement of informal leaders of opinion inside the schools					
s. Participation by key community leaders					
t. Taking advantage of crisis situations					
u. Finding shared values as a basis for working					
Other procedures used (specify):					

3. BARRIERS TO THIS INNOVATION

A number of circumstances are sometimes reported as "barriers" to innovation. In your experience with this innovation, how important was each of the following?

	IMPORTANCE as a barrier				
	Extreme	Major	Moderate	Slight	None
	5	4	3	2	1
a. Lack of adequate contacts with outside resource groups (e.g., universities, labs, consultants, etc.)					
b. Lack of communication among the staff					
c. Lack of communication between staff and students					
d. Confusion among staff about the purpose of the innovation					
e. Staff's lack of precise information about the innovation					
f. Disorganization of the planning and implementation efforts					
g. Unwillingness of resource groups to help us revise or adapt					
h. Rigidity of school system structure and bureaucracy					
i. Unwillingness of teachers and other school personnel to change or listen to new ideas					
j. Shortage of funds allocated for the innovation					
k. Shortage of qualified personnel					
l. Feeling by teachers and staff that the innovation would have little benefit for them					
m. Frustration and difficulty encountered by teachers and/or relevant staff in trying to adopt					
n. Frustration and difficulty encountered by students during the adoption process					
o. Lack of contact with other school systems who had considered the same innovation					
p. Lack of coordination and teamwork within the school system					
q. Absence of a concerted campaign to put the new ideas across					
r. Inadequacy of school plant, facilities, equipment, or supplies					
Other barriers (specify):					

4a. Is there another major area or problem on which you are planning to make changes in the next year? (Specify briefly)

____

____

____

____

____

____

b. Would items like those in Questions 2 and 3 above be helpful as a checklist in planning or evaluating such changes? Yes___ or No___

Major reason for checking "yes" or "no." ______________________________

5. OTHER AREAS IN WHICH THE SCHOOL DISTRICT HAS BEEN INNOVATING IN THE LAST SCHOOL YEAR (1970-71)

Using the same definition of "innovation" as suggested on Question 1, make a brief listing of other innovations introduced or attempted in the last year. Only the briefest descriptive phrase is necessary (e.g., "12 month year" or "a black studies program"). If the program is a widely distributed educational product such as "PSSC physics," the letter abbreviation will be sufficient. Also indicate the number of innovations tried out in each category "a thru f". If there were none in a particular area last year indicate with a "0"; if there were many in an area that would fit the definition, give your best estimate as to how many there were.

CIRCLE TOTAL Number of Innovations in Each Category for 1970-71

a. Major Changes in Administration and Organization (e.g., student, teacher, or citizen participation in governance; programming, planning, or budgeting procedures; promotion and grading practices, decentralization, desegregation).

Most significant innovation (if any):

0 1 2 3 4 or more

b. Major Changes in Instructional Procedures (e.g., individualization of instruction, team teaching, work-study, flexible scheduling, programmed learning, computer-assisted instruction, grouping, teacher aides).

Most significant innovation (if any):

0 1 2 3 4 or more

c. New Services and Special Programs (e.g., guidance and counselling, information centers, library, research or evaluation office, in-service training for teachers, community relations).

Most significant innovation (if any):

0 1 2 3 4 or more

d. Major Curriculum Changes (e.g., new math, science or social studies, new courses and course programs, or restructuring of entire programs. Only changes which involve several classrooms or more than one building).

Most significant innovation at elementary level (if applicable):

0 1 2 3 4 or more

Most significant innovation at junior high or middle (if applicable):

0 1 2 3 4 or more

Most significant innovation at senior high level (if applicable):

0 1 2 3 4 or more

e. New Educational Technology Acquired (e.g., audio or video tape equipment, computer, teaching machines, specially designed facilities, language laboratory).

Most significant innovation (if any):

0 1 2 3 4 or more

f. Are there other areas in which you made innovations in 1970-71 not covered by the categories above? (Specify briefly)

0 1 2 3 4 or more

6. The two lists below suggest some of the resources which can be used when implementing innovations. Indicate the degree to which your system has used these internal and external resources for this purpose in the past year. (Add others where appropriate.)

INTERNAL RESOURCES	(6) Not Available	FREQUENCY OF USE IF AVAILABLE (5) Very Freq.	(4) Frequently	(3) Occasionally	(2) Very Infreq.	(1) Never
a. Research and Evaluation Office or Staff						
b. In-Service Training Program						
c. Library Facilities						
d. Media Specialists or Centers						
e. Curriculum Supervisors						
f. Teacher Discussions & Idea Presentations						
g. Student Discussions & Idea Presentations						
h. Other (specify)						

EXTERNAL RESOURCES	(6) Not Available	FREQUENCY OF USE IF AVAILABLE (5) Very Freq.	(4) Frequently	(3) Occasionally	(2) Very Infreq.	(1) Never
i. ERIC						
j. USOE Supported Regional Educational Laboratories						
k. ESEA Title I Projects or Services						
l. ESEA Title III Projects or Services						
m. Other Federally Funded Programs and Services						
n. State Education Agency Services						
o. Foundations and Other Private Programs						
p. Universities and Colleges						
q. Professional Associations						
r. Other (specify)						

7. Were any of the above resources (internal or external) used in choosing or implementing the specific innovation described on Page 1? (Indicate by letter, "a" through "r"): ____________________

8. How frequently does your system utilize the following media to explain innovations to parents and the community?

	Weekly or More Often (5)	Monthly (4)	Quarterly (3)	Once or Twice a Year (2)	Very Rarely or Never (1)
Local newspaper					
Local television					
Local radio					
Newsletters					
Public meetings					

9. To what extent does your system utilize the following policies and procedures?

	Usual Policy (4)	In Special Cases (3)	Very Rarely (2)	Never (1)
a. Pay staff travel				
b. Sabbatical leaves				
c. Staff tuition-paid courses				
d. Service awards				
e. Lay advisory groups (community, minority, parents)				

10. What percent of the 1970 graduates of this system continued their formal education beyond high school?

a. _____% four year college
b. _____% two-year or community college
c. _____% non-degree technical/vocational training
d. _____% other (specify) ____________________

11. In the last year has the school system experienced difficulty in gaining citizen support for financing education?

	No Difficulty (1)	(2)	Some Difficulty (3)	(4)	Great Difficulty (5)
a. For maintenance of existing operations:					
b. For proposed new projects and programs:					

12. Did your school system experience any of the following events in the last year?

	Never	Once	More than Once
a. Teacher strikes and demonstrations			
b. Community group protests			
c. Student unrest (protests, confrontations, etc.)			

d. Has any of these events influenced innovation activities such as those described in Questions 1, 4, or 5? If so, how?
____
____
____
____

13a. System size and staffing:

	Elementary	Jr.High/Middle	High School
1) Grade Span 1970-71			
2) Student Enrollment 1970-71			
3) Teachers Employed 1970-71			
4) Admin. Staff Employed 1970-71			

b. Has there been any change in enrollment in the last 5 years?
(3) Increase______ (2) No Change______ (1) Decrease_____
c. Primary reason for change ____________________
____

14a. What was the total per pupil expenditure for the 1970-71 school year (round figure estimate)? ____________________
b. Has there been any significant change in per pupil expenditures over the last 5 years?
Increase______ No Change ________ Decrease______
c. Primary reason for change ____________________

APPENDIX B

CASE STUDY INTERVIEW
SCHEDULE I

CASE STUDY INTERVIEW
SCHEDULE I

1. In order to give me an overview of the innovation, would you please describe it, briefly? Title ______________________________

   a) What is it? What are its objectives and procedures? What elements comprise it?

   b) Who was the innovation supposed to affect? How? (Intended objectives)

   c) What have been the actual consequences to date? (Actual outcomes)

2. Place the innovation in its chronological order. That is, describe the process by which the innovation was introduced and implemented, starting from your first introduction to it and including the innovation in its present form. (Probe with: who, what, when.) Use also DAETEIM.

3. With respect to the above chronology,

   a) Who are the key persons in the narrative you've just described? (List names and roles on first column of sheet.)

   b) Who are some of the key groups involved?

   c) Could we talk just briefly about each of these people and each of these groups? (See next page)

   d) What salient factors (i.e., materials, personnel, conditions) facilitated the implementation of the innovation?

   e) By the same token, what factors do you see as inhibiting the innovation? (See sheet 3e)

   f^1) What resources, persons and materials were utilized at various times in the course of adapting the innovation? (See sheet 3f)

   f^2) Which were most useful? How? Why? Least useful? Difficulties encountered? (Degree of utilization)

   g) What forms of communication and media have been used, by whom and to whom? Why were they chosen? (Here are some samples of what I mean by "media": memoranda, reports, newsletters, newspapers, radio, TV, one-to-one meetings, small group meetings, assemblies, lectures, and conferences.)

4. a) Would you look over this list of procedures and strategies and check off those which typify the process as you saw it? (See sheet 4a)

   b) Do any of these items suggest to you additional points that might be made regarding your statement of how the innovation came to be adopted?

   c) In addition to this list, are there other things that deserve mention

3a.

	Age	Ethnic Group	Socio-Econ.	Attitude to this Innovation	Attitude to Innovations in General	Basis of Motivation	Educational Values	Frequency of contacts with			Other Note-worthy Characteristics
								Students	In-side Re-sources	Out-side Re-sources	
KEY PERSONS				+ N -	+ N -						
				+ N -	+ N -						
				+ N -	+ N -						
				+ N -	+ N -						
				+ N -	+ N -						
				+ N -	+ N -						
KEY GROUPS				+ N -	+ N -						
				+ N -	+ N -						
				+ N -	+ N -						
				+ N -	+ N -						

5. I'd like to ask you a few more questions about the consequences.

    a) What are the actual, intended consequences to date?

    b) Have there been any unintended consequences to date?

        1) positive
        2) negative

    c) What consequences are expected in the future?

        1) positive
        2) negative

    d) Have you evaluated the consequences? If so, how?

6. Would you place the innovation in its wider context?

    a) Describe any groups, school and community, you see as having a significant influence over the fate of this innovation.

    b) What educational concerns to community members, over the past few years, may have led up to or influenced this innovation, directly or indirectly?

    c) Highlight those policy trends the Board of Education and school administration have followed over these past few years with respect to this innovation and to innovations of this type. Include problems to which this innovation was addressed.

7. If another school (system) were to adopt this same innovation, what advice would you offer them to insure successful adoption, installation, and continued operation?

3f. Here is a list of possible resources and sources of information and support. Would you tell me which of these, if any, played a role in bringing about this innovation?

INTERNAL RESOURCES	(6) Not Available	FREQUENCY OF USE IF AVAILABLE				
		(5) Very Freq.	(4) Frequently	(3) Occasionall	(2) Very Infreq.	(1) Never
a. Research and Evaluation Office or Staff						
b. In-Service Training Program						
c. Library Facilities						
d. Media Specialists or Centers						
e. Curriculum Supervisors						
f. Teacher Discussions & Idea Presentations						
g. Student Discussions & Idea Presentations						
h. Other (specify)						

EXTERNAL RESOURCES	(6) Not Available	FREQUENCY OF USE IF AVAILABLE				
		(5) Very Freq.	(4) Frequently	(3) Occasionally	(2) Very Infreq.	(1) Never
i. ERIC						
j. USOE Supported Regional Educational Laboratories						
k. ESEA Title I Projects or Services						
l. ESEA Title III Projects or Services						
m. Other Federally Funded Programs and Services						
n. State Education Agency Services						
o. Foundations and Other Private Programs						
p. Universities and Colleges						
q. Professional Associations						
r. Other (specify)						

4a.

INNOVATION PROCEDURES	EMPHASIS				
	Extreme	Major	Moderate	Slight	None
	5	4	3	2	1
a. Systematic evaluation					
b. Solid research base					
c. Systematic planning					
d. Adequate definition of objectives					
e. Selecting a competent staff to implement change					
f. Starting out with adequate financial resources to do the job					
g. Utilizing a number of different media to get the new ideas across					
h. Persistence by those who advocate the innovation					
i. Maximizing chances of participation by many groups					
j. Stressing self-help by the users of the innovation					
k. Adequate diagnosis of the real educational need					
l. Providing a climate conducive to sharing ideas					
m. Providing a climate conducive to risk-taking					
n. Creating awareness of the need for change					
o. Creating an awareness of alternative solutions					
p. Confrontation of differences					
q. Resolution of interpersonal conflicts					
r. Involvement of informal leaders of opinion inside the schools					
s. Participation by key community leaders					
t. Taking advantage of crisis situations					
u. Finding shared values as a basis for working					
Other procedures used (specify):					

3e: BARRIERS TO THIS INNOVATION

Here is a list of possible barriers to innovation. Would you please check off which ones were important for this innovation.

	IMPORTANCE as a barrier				
	Extreme	Major	Moderate	Slight	None
	5	4	3	2	1
a. Lack of adequate contacts with outside resource groups (e.g., universities, labs, consultants, etc.)					
b. Lack of communication among the staff					
c. Lack of communication between staff and students					
d. Confusion among staff about the purpose of the innovation					
e. Staff's lack of precise information about the innovation					
f. Disorganization of the planning and implementation efforts					
g. Unwillingness of resource groups to help us revise or adapt					
h. Rigidity of school system structure and bureaucracy					
i. Unwillingness of teachers and other school personnel to change or listen to new ideas					
j. Shortage of funds allocated for the innovation					
k. Shortage of qualified personnel					
l. Feeling by teachers and staff that the innovation would have little benefit for them					
m. Frustration and difficulty encountered by teachers and/or relevant staff in trying to adopt					
n. Frustration and difficulty encountered by students during the adoption process					
o. Lack of contact with other school systems who had considered the same innovation					
p. Lack of coordination and teamwork within the school system					
q. Absence of a concerted campaign to put the new ideas across					
r. Inadequacy of school plant, facilities, equipment, or supplies					
Other barriers (specify):					

APPENDIX C

CASE STUDY INTERVIEW
SCHEDULE II

CASE STUDY INTERVIEW
SCHEDULE II

1. How would you describe the innovation?

2. a) How have you been involved in it?
   b) How are you involved in it?

3. What outcomes does it produce that are different from before?

   a) good things
   b) bad things
   c) expected
   d) unexpected

4. a) Besides yourself, who else has it affected?
   b) Has it caused more harm than good for anyone?

5. a) In what ways is it better than what it replaced?
   b) In what ways is it worse?

6. a) What was it to accomplish?
   b) Has it done so?

7. If another school (system) were to adopt this same innovation, what advice would you offer them to insure successful adoption, installation, and continued operation?

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